New Jersey Department of Environmental Protection
Site Remediation & Waste Management Program

REMEDIAL ACTION PERMIT INITIAL APPLICATION – GROUND WATER

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Chevron USA Inc.

List All AKAs:

Street Address: 1200 State Street

Municipality: Perth Amboy (Township, Borough, or City)

County: Middlesex Zip Code: 08861

Program Interest (PI) Number(s): 003621

Case Tracking Number(s):

Municipal Block(s) and Lot(s) of the site/property: Block 468 Lots 1.01, 1.02, 1.03; Block 469 Lot 1; Block 399 Lot 1

Is this site a Federal case? ☒ Yes ☐ No

If "**Yes**", indicate the Federal Case Type:

☒ **RCRA GPRA 2020** ☐ **CERCLA/NPL** ☐ **USDOD** ☐ **USDOE**

☐ Other (explain):

SECTION B. INITIAL GROUND WATER REMEDIAL ACTION PERMIT APPLICATION

1. Reason for Initial Ground Water Remedial Action Permit (RAP) Application: (*check one*)

☒ **To support a Response Action Outcome (RAO)**

☐ **To support a Post-No Further Action (NFA)**

Note: This permit application will not be processed until all past RAP annual fees and the Remedial Action Protectiveness/Biennial-Certification fee have been paid in full.

☐ **Subdivision of an existing Ground Water RAP**

Has the Ground Water RAP Modification or Termination Application also been submitted for the original parcel(s)? ☐ Yes ☐ No

If "**No**", please explain why in Section K below.

☐ **Other (*provide reason - see instructions*):**

2. The appropriate Initial Ground Water RAP Application fee must be enclosed with this application.

	Effective on or Before June 30, 2022	Effective July 1, 2022
Ground Water Natural Attenuation RAP Fee – Initial	$990.00	$1,050.00
Ground Water Active System RAP Fee – Initial	$990.00	$1,050.00

SECTION C. FEE BILLING CONTACT PERSON

Business Name: Chevron U.S.A., Inc c/o Chevron Environmental Management Company

First Name of Contact: Brian Last Name of Contact: Connors

Title: Operations Lead/Project Manager

Phone Number: (732) 738-2185 Ext.: Fax:

Mailing Address: 1500 Louisiana Street

Municipality: Houston State: Texas Zip Code: 77210

Email Address: BConnors@chevron.com

SECTION D. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION – CO-PERMITTEE

☐ Addendum for additional Person Responsible for Conducting the Remediation has been completed.

Affiliation/Name of Organization: Chevron U.S.A., Inc c/o Chevron Environmental Management Company

First Name of Contact: Brian Last Name of Contact: Connors

Title: Operations Lead/Project Manager

Phone Number: (732) 738-2185 Ext.: Fax:

Mailing Address: 1500 Louisiana Street

Municipality: Houston State: Texas Zip Code: 77210

Email Address: BConnors@chevron.com

☒ Check the box if the Person Responsible for Conducting the Remediation is the Primary Contact for Permit Compliance

SECTION E. CURRENT OWNER OF THE SITE – CO-PERMITTEE

☒ Addendum for additional Owner of the Site has been completed.

Affiliation/Name of Organization: PPF Industrial 1050 Amboy Ave

First Name of Contact: Becca Last Name of Contact: Volpano

Title: Vice President

Phone Number: (212) 296-5391 Ext.: Fax:

Mailing Address: Morgan Stanley Real Estate Investing, 1585 Broadway, 37th Fl

Municipality: New York State: New York Zip Code: 10036

Email Address: Becca.Volpano@morganstanley.com

☐ Check the box if the owner is the Primary Contact for Permit Compliance

SECTION F. ATTACHED DOCUMENTS

Attach the following documents:

Note: All electronic copies should be provided in Adobe PDF file format on a compact disc (CD) except the Ground Water Monitoring Plan which should be provided in MS Excel file format on a CD.

☒ Hard copy ***and*** electronic copy of the completed Initial Ground Water RAP Application using the current form on the NJDEP Website.

☐ Remedial Action Report (RAR) submitted through the online portal unless this application is related to a Post-NFA Case. For Post-NFA Cases, submit an electronic copy of the RAR and any other pertinent reports/letters (e.g., Remedial Action Workplan (RAW) Approval Letters).

Provide the Licensed Site Document (LSD) Activity Number for the RAR online submission: _____

☒ Electronic copy of a map or the location in the RAR (*Section #s/Figure #s)* of the map(s) showing area of concern/source and showing and/or explaining horizontal and vertical delineation of the ground water contamination.

Location in the RAR (*Section #s/Figure #s)*: GW Monitoring Report for West Yard/Amboy Field Figures 4 and 5

☒ Electronic copy of ground water contour maps for at least the last four ground water sampling events or the location in the RAR with these maps.

Location in the RAR (*Figure #s)*: GW Monitoring Report for West Yard/Amboy Field Figures 3a and 3b

☒ Electronic copy of a table summarizing the monitoring well construction details (below ground surface (bgs)) for all the monitoring wells at the site or the location in the RAR with this table.

Location in the RAR (*Table #)*: GW Monitoring Report for West Yard/Amboy Field Table 1

☒ Electronic copy of the Classification Exception Area/Well Restriction Area (CEA/WRA) Fact Sheet Form.

☒ Electronic copy of the Ground Water Monitoring Plan (in MS Excel file format).

☐ Electronic copy of the NFA Letter (*Post-NFA Cases only*), if applicable.

☐ Electronic copy of the Vapor Intrusion Long-Term Monitoring Plan, if applicable.

☐ Electronic copy of the Operation, Maintenance, and Monitoring (OMM) Plan for the vapor intrusion engineering control(s)/mitigation system(s) that are currently in place, if applicable.

☐ Electronic copy of the OMM Plan for the Point of Entry Treatment (POET) water system(s) that are currently in place, if applicable.

☐ Electronic copy of the completed Remediation Cost Review and RFS/FA Form with a detailed cost estimate, if applicable, including:

Only Check One:

☐ **Original** Financial Assurance mechanism (*hard copy*), including any Amendments, is attached.

☐ Date the original Financial Assurance mechanism was submitted to the NJDEP:

☐ An electronic copy of the Remediation Funding Source (RFS) mechanism, is included if using an existing RFS mechanism as the Financial Assurance, and an amendment to conform to the Financial Assurance format.

☐ Electronic copy of the homeowner or condominium association's annual budget that includes funds for the operation, maintenance, and monitoring of the engineering control(s) at the site, if applicable.

SECTION G. MONITORING, MAINTENANCE AND EVALUATION INFORMATION

1. Has the ground water contamination been horizontally delineated in all directions at the site? ..... ☒ Yes ☐ No

   If "**No**", provide the location in the RAR (*Section #*) that supports the variance from N.J.A.C. 7.26E-4.3(a)4: .....

2. Has the ground water contamination been vertically delineated at the site?..... ☒ Yes ☐ No

   If "**No**", provide the location in the RAR (*Section #*) that supports the variance from N.J.A.C. 7.26E-4.3(a)4: .....

3. Type of Ground Water Remediation

   a. ☒ **Monitored Natural Attenuation (MNA)**

      i) Is there a decreasing trend of contaminant concentrations in the ground water? ..... ☒ Yes ☐ No

      If "**Yes**", provide the location in the RAR (*Section #*) that documents this issue.: ..... Section 5.2

      If "**No**", provide the location in the RAR (*Section #*) that justifies the protectiveness of the remedy.....

      ii) Is the ***behavior*** of the ground water contaminant plume considered to be shrinking or stable? ..... ☒ Yes ☐ No

      If "**Yes**", check off only one of the following: ☐ Shrinking ☒ Stable and provide the location in the RAR (*Section #*) that documents this issue.: ..... Section 5.2

If "**No**", provide the location in the RAR (*Section #*) that justifies the protectiveness of the remedy: ..... _____

iii) Have secondary lines of evidence been collected to support the MNA proposal? ..... ☒ Yes ☐ No

If "**Yes**", provide the location in the RAR (*Section #*) that documents this issue.: ..... Sections 5.1, 5.3, 5.4

iv) Have tertiary lines of evidence been collected to support the MNA proposal? ..... ☐ Yes ☒ No

If "**Yes**", provide the location in the RAR (*Section #*) that documents this issue.: ..... _____

v) Is the ground water plume reaching the sentinel wells? ..... ☐ Yes ☒ No

If "**Yes**", provide the location in the RAR (*Section #*) that justifies the protectiveness of the remedy since the sentinel well(s) should be below the Ground Water Quality Standards (GWQS) or if you are using an alternate method that is not a sentinel monitoring well:..... _____

vi) Has all soil contamination in the unsaturated zone been remediated to the applicable numeric Soil Remediation Standard for all area(s) of concern associated with this CEA? ..... ☐ Yes ☐ No ☒ N/A

If "**No**", provide the location in the RAR (*Section #*) that justifies the protectiveness of the remedy: ..... _____

vii) Has all free and/or residual product in the unsaturated and saturated zones, as determined pursuant to N.J.A.C. 7:26E-5.1(e), been treated or removed for all area(s) of concern associated with this CEA? ..... ☐ Yes ☐ No ☒ N/A

If "**No**", provide the location in the RAR (*Section #*) that justifies the protectiveness of the remedy: ..... _____

b. ☐ **Active Remediation**

Provide the type of remediation: _____

i) Is there a decreasing trend of contaminant concentrations in the ground water? ..... ☐ Yes ☐ No

If "**Yes**", provide the location in the RAR (*Section #*) that documents this issue.: ..... _____

If "**No**", is the ground water plume considered stable? ..... ☐ Yes ☐ No

Provide the location in the RAR (*Section #*) that justifies the protectiveness of the remedy:..... _____

ii) Is the ground water plume reaching the sentinel wells? ..... ☐ Yes ☒ No

If "**Yes**", provide the location in the RAR (*Section #*) that justifies the protectiveness of the remedy since the sentinel well(s) should be below the GWQS or if you are using an alternate method that is not a sentinel monitoring well:..... _____

iii) Is the ground water remedial action performing as designed? ..... ☐ Yes ☐ No

If "**No**", provide the location in the RAR (*Section #*) that justifies the protectiveness of the remedy: ..... _____

iv) Indicate the expected duration of the active remediation:..... _____ (years)

4. Has a Technical Impracticability (TI) Determination been submitted? ..... ☐ Yes ☒ No

If "**Yes**", provide the location in the RAR (*Section #*) that documents this issue.: ..... _____

5. Has any ground water contamination migrated onto the site/property from an off-site source and that is not being included in the Ground Water RAP?..... ☐ Yes ☒ No

If "**Yes**", provide the communication center number that was received when called into the Hotline and the location in the RAR (Section #) that documents this issue:..... _____

6. Is any ground water contamination being attributed to natural background conditions and that is not being included in the Ground Water RAP? ☒ Yes ☐ No

   If "**Yes**", provide the location in the RAR (*Section #*) that documents this issue: Sections 4.2.1, 4.2.2

7. Check the **Monitoring Schedule** you plan to apply:

   ☐ Monthly ☒ Annual
   ☐ Quarterly ☐ Biennial
   ☐ Semi Annual ☐ Other: _____

SECTION H. FINANCIAL ASSURANCE

1. Does the remedial action include a ground water or vapor intrusion engineering control? ☐ Yes ☒ No

   If "**No**", proceed to the next section.

2. Are any of the permittees exempt from establishing Financial Assurance pursuant to N.J.A.C. 7:26C-7.10(c)? ☐ Yes ☐ No

   If "**Yes**", check the exemption(s) that applies.

Person Responsible for Conducting the Remediation – Co-Permittee	Current Owner of the Site – Co-Permittee	
☐	☐	Government entity (e.g., departments, agencies, and public universities)
☐	☐	A person not liable pursuant to the Spill Act that purchased contaminated property before May 7, 2009
☐	☐	A person that conducted remediation at their primary or secondary residence
☐	☐	Owner or operator of a child care center
☐	☐	Public school, private school, or charter school
	☐	Owner or operator of a small business responsible for conducting remediation **at the location of the site**

If all of the permittees are exempt, proceed to the next section.

3. Is the current owner of the site either a homeowner association or a condominium association pursuant to the New Jersey Common Interest Association Act, N.J.S.A. 46:8A-1 et seq.? ☐ Yes ☐ No

   *If "**Yes**", and the association is identified in Section E of this RAP Application, an electronic copy of the association's annual budget that includes funds for the operation, maintenance, and monitoring of the engineering control(s) at the site should be attached as indicated in Section F above.*

4. Identify the estimated cost of the operation, maintenance, and monitoring of the engineering control(s) at the site: $ _____

5. Are you using an existing RFS mechanism for the site as the Financial Assurance? ☐ Yes ☐ No

   If "**Yes**", have <u>all</u> the following criteria been met? ☐ Yes ☐ No

   a. The amount of funds needed to operate, maintain, and monitor the engineering control(s) at the site for the duration of the CEA or for 30 years (minimum of $30,000 for a 30-year time frame) if the duration of the CEA is indeterminant;

   b. The amount of funds in the RFS equals the amount of funds required to be posted for RFS and Financial Assurance; and

   c. The RFS is not in the form of a self-guarantee.

   Identify the full amount of the current RFS: $ _____

6. Identify the full amount established as a Financial Assurance: ..... $ _____

As indicated in Section F above, an electronic copy of the completed Remediation Cost Review and RFS/FA Form with a detailed cost estimate should be attached. Also, please be sure to provide one of the following as indicated in Section F above: the **original** Financial Assurance mechanism (attach hard copy), including any Amendments, to the Ground Water RAP Application; the date the original Financial Assurance mechanism was submitted to the NJDEP; or an electronic copy of the existing RFS mechanism that is being used as the Financial Assurance and the amendment to conform to the Financial Assurance format.

7. What is the Financial Assurance Mechanism? *(check all that apply)*

☐ Remediation Trust Fund ☐ Line of Credit ☐ Surety Bond
☐ Environmental Insurance Policy ☐ Letter of Credit

8. Contact information at the financial institution for the Financial Assurance:

Financial Institution: _____

First Name of Contact: _____ Last Name of Contact: _____

Title: _____

Phone Number: _____ Ext.: _____ Fax: _____

Mailing Address: _____

Municipality: _____ State: _____ Zip Code: _____

Email Address: _____

SECTION I. LAND USE *(for overlying CEA)*

1. **Current Site Land Use** *(check all that apply)*

☒ Industrial ☐ Park or Recreational Use ☐ Child Care Facility
☐ Residential ☐ Agricultural ☐ Hospital
☒ Commercial ☐ Road/Right of Way ☐ Vacant
☐ Governmental Facility ☐ School ☐ Other _____

2. **Off-site Land Use** *(check all that apply for Blocks/Lots included in the areal extent of the CEA)*

☒ Industrial ☐ Park or Recreational Use ☐ Child Care Facility
☐ Residential ☐ Agricultural ☐ Hospital
☒ Commercial ☐ Road/Right of Way ☐ Vacant
☐ Governmental Facility ☐ School ☐ Other _____

SECTION J. AFFECTED RECEPTOR SUMMARY

1. Are there any buildings with an Indeterminate Vapor Intrusion Pathway status? ..... ☐ Yes ☒ No

If "**Yes**", provide the location in the RAR (*Section # and Figure #*) that documents this issue: ..... _____

2. Is there soil gas contamination above the Soil Gas Screening Levels beneath any buildings that require long-term monitoring? ..... ☐ Yes ☒ No

If "**Yes**", provide the location in the RAR (*Section # and Figure #*) that documents this issue: ..... _____

As indicated in Section F above, an electronic copy of the Vapor Intrusion Long-Term Monitoring Plan should be attached.

3. Are any vapor intrusion engineering controls/mitigation systems currently installed at any buildings as a result of this ground water contamination? ..... ☐ Yes ☒ No

If "**Yes**", indicate the type of engineering control that was implemented: *(check all that apply)*

- ☐ Subsurface Depressurization System
- ☐ Subsurface Ventilation System
- ☐ Soil Vapor Extraction System
- ☐ HVAC Positive Pressure
- ☐ Other (specify): _____

As indicated in Section F above, an electronic copy of the OMM Plan for the vapor intrusion engineering control(s)/mitigation system(s) should be attached. The OMM Plan should clearly identify the building(s) and/or structure(s) and vapor intrusion engineering control(s)/mitigation system(s) that are in place (e.g., active or passive), including the address and block and lot of each impacted property.

4. Are any Point of Entry Treatment (POET) water systems currently installed at any buildings as a result of this ground water contamination? ..... ☐ Yes ☒ No

If "**Yes**", an electronic copy of the OMM Plan for the POET water system(s) should be attached as indicated in Section F above. The OMM Plan should provide the address and lot and block of each property with a POET water system in place. The sampling of the POET water system(s) should be included in the Ground Water Monitoring Plan for the site.

5. Are any potable wells that do not have a POET water system currently being sampled regularly as a result of this ground water contamination? ..... ☐ Yes ☒ No

If "**Yes**", include these potable wells in the Ground Water Monitoring Plan for the site.

SECTION K. OTHER INFORMATION PROVIDED

List any other pertinent information to support the Initial Ground Water RAP Application

SECTION L. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation:

Chevron U.S.A., Inc c/o Chevron Environmental Management Company

Representative First Name: Brian Representative Last Name: Connors

Title: Operations Lead/Project Manager

Phone Number: (732) 738-2185 Ext.: Fax:

Mailing Address: 1500 Louisiana Street

City/Town: Houston State: Texas Zip Code: 77210

Email Address: BConnors@chevron.com

This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Signature: Brian Connors Date: 09/21/2022

Name/Title: Brian Connors, Operations Lead/Project Manager

SECTION M. CURRENT OWNER OF THE SITE INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible who owns the site:

PPF Industrial 1050 Amboy Ave LLC

Representative First Name: Becca Representative Last Name: Volpano

Title: Vice President

Phone Number: (212) 296-5391 Ext.: Fax:

Mailing Address: Morgan Stanley Real Estate Investing, 1585 Broadway, 37th Floor

City/Town: New York State: New York Zip Code: 10036

Email Address: Becca.Volpano@morganstanley.com

This certification shall be signed by the person who owns the site and is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Signature: Date: 9/19/22

Name/Title: Becca Volpano, Vice President

Completed forms should be sent to:

Bureau of Case Assignment & Initial Notice
Site Remediation Program
NJ Department of Environmental Protection
401-05H
PO Box 420
Trenton, NJ 08625-0420

SECTION N. LICENSED SITE REMEDIATION PROFESSIONAL INFORMATION AND STATEMENT

LSRP ID Number: 585022

First Name: Rebecca Last Name: Hollender

Phone Numbers: (908) 988-1710 Ext.: Fax:

Mailing Address: 41 Spring Street, Suite 102

Municipality: New Providence State: New Jersey Zip Code: 07974

Email Address: rhollender@trccompanies.com

This statement shall be signed by the LSRP who is submitting this notification in accordance with N.J.S.A. 58:10C-14, and N.J.S.A. 58:10B-1.3b(1) and (2).

(1) I certify, as a Licensed Site Remediation Professional authorized pursuant to N.J.S.A. 58:10C-1 et seq. to conduct business in New Jersey, that for the remediation described in this submission, and all attachments included in this submission, I personally: Managed, supervised, or performed the remediation conducted at this site that is described in this submission, and all attachments included in this submission; and/or periodically reviewed and evaluated the work performed by other persons that forms the basis for the information in this submission; and/or completed the work of another site remediation professional, licensed or not, after having: (1) reviewed all available documentation on which I relied; (2) conducted a site visit and observed the then-current conditions and verified the status of as much of the work as was reasonably observable; and (3)concluded, in the exercise of my independent professional judgment, that there was sufficient information upon which to complete any additional phase of remediation and prepare workplans and reports related thereto.

(2) I certify:

- *That I have read this submission and all attachments to this submission;*
- *That in performing the professional services as the licensed site remediation professional for the entire site or each area of concern, I adhered to the professional conduct standards and requirements governing licensed site remediation professionals provided in N.J.S.A. 58:10C-16;*
- *That the remediation conducted at the entire site or each area of concern, that is described in this submission and all attachments to this submission, was conducted pursuant to and in compliance with the remediation requirements in N.J.S.A. 58:10C-14.c;*
- *That the remediation described in this submission, and all attachments to this submission, was conducted pursuant to and in compliance with the regulations of the Site Remediation Professional Licensing Board at N.J.A.C. 7:26I; and*
- *That the information contained in this submission and all attachments to this submission is true, accurate, and complete.*

(3) I certify, when this submission includes a response action outcome, that the entire site or each area of concern has been remediated in compliance with all applicable statutes, rules, and regulations and is protective of public health and safety and the environment.

(4) I certify that no other person is authorized or able to use any password, encryption method, or electronic signature that the Board or the Department have provided to me.

(5) I certify that I understand and acknowledge that:

- *If I knowingly make a false statement, representation, or certification in any document or information I submit to the Department I may be subject to civil and administrative enforcement pursuant to N.J.S.A. 58:10C-17.a.1(a)through (f) by the Board, including but not limited to license suspension, revocation, or denial of renewal; and*
- *If I purposely, knowingly, or recklessly make a false statement, representation, or certification in any application, form, record, document or other information submitted to the Department or required to be maintained pursuant to the Site Remediation Reform Act, I shall be guilty, upon conviction, of a crime of the third degree and shall, notwithstanding the provisions of subsection b. of N.J.S.2C:43-3, be subject to a fine of not less than $5,000 nor more than $75,000 per day of violation, or by imprisonment, or both.*

(6) I certify that I have read this certification prior to signing, certifying, and making this submission.

LSRP Signature: Rebecca Hollender Date: September 22, 2022

LSRP Name: Rebecca Hollender

Company Name: TRC Companies

ADDENDUM A

Additional Persons Responsible For Conducting Remediation

ADDENDUM TO SECTION D. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION – CO-PERMITTEE

Affiliation/Name of Organization: _____

First Name of Contact: _____ Last Name of Contact: _____

Title: _____

Phone Number: _____ Ext.: _____ Fax: _____

Mailing Address: _____

Municipality: _____ State: _____ Zip Code: _____

Email Address: _____

☐ Check the box if the Additional Person Responsible for Conducting the Remediation is the Primary Contact for Permit Compliance

1. Does the remedial action include a ground water or vapor intrusion engineering control? ..... ☐ Yes ☐ No

   If "**No**", proceed to next section.

2. Are you exempt from establishing financial assurance pursuant to N.J.A.C. 7:26C-7.10(c)? ..... ☐ Yes ☐ No

   If "**Yes**", check the exemption(s) that applies:

   ☐ Government entity (e.g., departments, agencies, and public universities)
   ☐ A person not liable pursuant to the Spill Act that purchased contaminated property before May 7, 2009
   ☐ A person that conducted remediation at their primary or secondary residence
   ☐ Owner or operator of a child care center
   ☐ Public school, private school, or charter school

3. Identify the estimated cost of the operation, maintenance, and monitoring of the engineering control(s) at the site: ..... $ _____

4. Are you using an existing RFS mechanism for the site as the Financial Assurance? ..... ☐ Yes ☐ No

   If "**Yes**", have <u>all</u> of the following criteria been met? ..... ☐ Yes ☐ No

   a. The amount of funds needed to operate, maintain, and monitor the engineering control(s) at the site for the duration of the CEA or for 30 years (minimum of $30,000 for a 30-year time frame) if the duration of the CEA is indeterminant;
   b. The amount of funds in the RFS equals the amount of funds required to be posted for RFS and Financial Assurance; and
   c. The RFS is not in the form of a self-guarantee.

   Identify the full amount of the current RFS..... $ _____

5. Identify the full amount established as a Financial Assurance: ..... $ _____

   As indicated in Section F above, *an electronic copy of the completed Remediation Cost Review and RFS/FA Form with a detailed cost estimate should be attached.* Also, please be sure to provide one of the following as indicated in Section F above: attach the **<u>original</u>** Financial Assurance mechanism (hard copy), including any Amendments, to the Ground Water RAP Application; the date the original Financial Assurance mechanism was submitted to the NJDEP; or an electronic copy of the existing RFS mechanism that is being used as the Financial Assurance and the amendment to conform to the Financial Assurance format.

6. What is the Financial Assurance Mechanism? *(check all that apply)*

   ☐ Remediation Trust Fund ☐ Line of Credit ☐ Surety Bond
   ☐ Environmental Insurance Policy ☐ Letter of Credit

ADDENDUM A

7. Contact information at the financial institution for the Financial Assurance:

Financial Institution: _____

First Name of Contact: _____ Last Name of Contact: _____

Phone Number: _____ Ext: _____ Fax: _____

Mailing Address: _____

City/Town: _____ State: _____ Zip Code: _____

Email Address: _____

ADDENDUM TO SECTION L. PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION

Full Legal Name of the Person Responsible for Conducting the Remediation:

_____

Representative First Name: _____ Representative Last Name: _____

Title: _____

Phone Number: _____ Ext.: _____ Fax: _____

Mailing Address: _____

City/Town: _____ State: _____ Zip Code: _____

Email Address: _____

This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

Signature: _____ Date: _____

Name/Title: _____

ADDENDUM B

Additional Property Owners

ADDENDUM TO SECTION E. CURRENT OWNER OF THE SITE – CO-PERMITTEE

Affiliation/Name of Organization: Prologis, L.P.

First Name of Contact: Lluliana Last Name of Contact: Tavarez

Title: Property Manager

Phone Number: (201) 635-6028 Ext.: _____ Fax: _____

Mailing Address: One Meadowlands Plaza Suite 100

Municipality: East Rutherford State: New Jersey Zip Code: 07073

Email Address: ltavarez@prologis.com

☐ Check the box if the owner is the Primary Contact for Permit Compliance

1. Does the remedial action include a ground water or vapor intrusion engineering control? ..... ☐ Yes ☒ No

   If "**No**", proceed to next section.

2. Are you exempt from establishing financial assurance pursuant to N.J.A.C. 7:26C-7.10(c)? ..... ☐ Yes ☐ No

   If "**Yes**", check the exemption that applies, and then proceed to the next section:

   ☐ Government entity (e.g., departments, agencies, and public universities)
   ☐ A person not liable pursuant to the Spill Act that purchased contaminated property before May 7, 2009
   ☐ A person that conducted remediation at their primary or secondary residence
   ☐ Owner or operator of a child care center
   ☐ Public school, private school, or charter school
   ☐ Owner or operator of a small business responsible for conducting remediation **at the location of the site**

3. Do you represent a homeowner association or a condominium association pursuant to the New Jersey Common Interest Association Act, N.J.S.A. 46:8A-1 et seq.? ..... ☐ Yes ☐ No

   If "**Yes**", an electronic copy of the association's annual budget that includes funds for the operation, maintenance, and monitoring of the engineering control(s) at the site should be attached as indicated in Section F above.

4. Identify the estimated cost of the operation, maintenance, and monitoring of the engineering control(s) at the site: ..... $ _____

5. Are you using an existing RFS mechanism for the site as the Financial Assurance? ..... ☐ Yes ☐ No

   If "**Yes**", have <u>all</u> the following criteria been met? ..... ☐ Yes ☐ No

   a. The amount of funds needed to operate, maintain, and monitor the engineering control(s) at the site for the duration of the CEA or for 30 years (minimum of $30,000 for a 30-year time frame) if the duration of the CEA is indeterminant;
   b. The amount of funds in the RFS equals the amount of funds required to be posted for RFS and Financial Assurance; and
   c. The RFS is not in the form of a self-guarantee.

   Identify the full amount of the current RFS ..... $ _____

6. Identify the full amount established as a Financial Assurance: ..... $ _____

   As indicated in Section F above, *an electronic copy of the completed Remediation Cost Review and RFS/FA Form with a detailed cost estimate should be attached*. Also, please be sure to provide one of the following as indicated in Section F above: the **<u>original</u>** Financial Assurance mechanism (attach hard copy), including any Amendments, to the Ground Water RAP Application; the date the original Financial Assurance mechanism was submitted to the NJDEP; or an electronic copy of the existing RFS mechanism that is being used as the Financial Assurance and the amendment to conform to the Financial Assurance format.

ADDENDUM B

7. What is the Financial Assurance Mechanism? *(check all that apply)*

☐ Remediation Trust Fund ☐ Line of Credit ☐ Surety Bond
☐ Environmental Insurance Policy ☐ Letter of Credit

8. Contact information at the financial institution for the Financial Assurance:

Financial Institution: _____

First Name of Contact: _____ Last Name of Contact: _____

Phone Number: _____ Ext: _____ Fax: _____

Mailing Address: _____

City/Town: _____ State: _____ Zip Code: _____

Email Address: _____

ADDENDUM TO SECTION M. CURRENT OWNER OF THE SITE INFORMATION AND CERTIFICATION

Full Legal Name of the Person who owns the site:
Prologis, L.P.

Representative First Name: Lluliana Representative Last Name: Tavarez

Title: Property Manager

Phone Number: (201) 635-6028 Ext. _____ Fax: _____

Mailing Address: One Meadowlands Plaza Suite 100

City/Town: East Rutherford State: New Jersey Zip Code: 07073

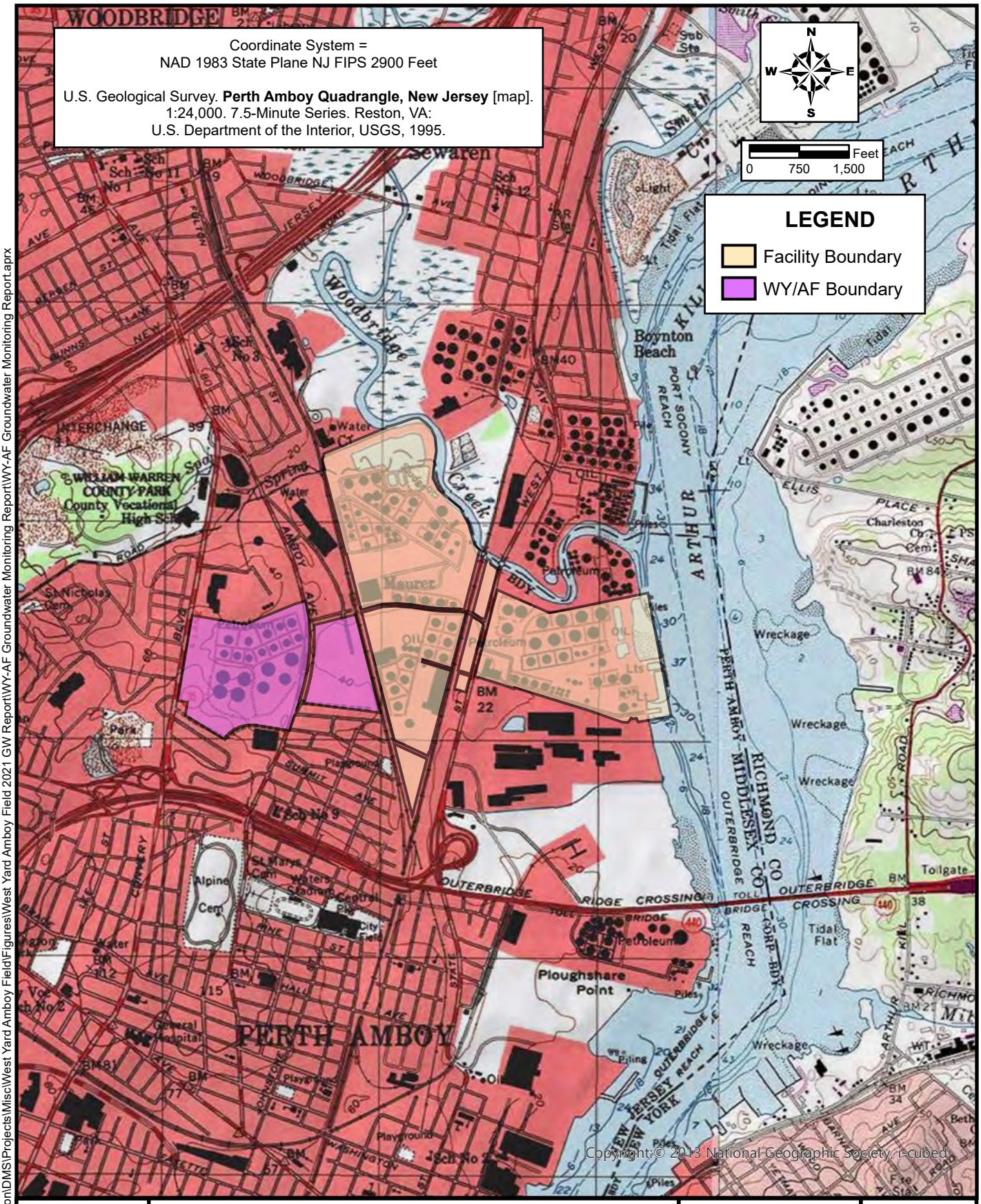
Email Address: ltavarez@prologis.com

This certification shall be signed by the person who owns the site and is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.

DocuSigned by:
Signature: Lluliana Tavarez Date: 9/19/2022
1D7E0FAEA826481...

Name/Title: Lluliana Tavarez, Property Manager



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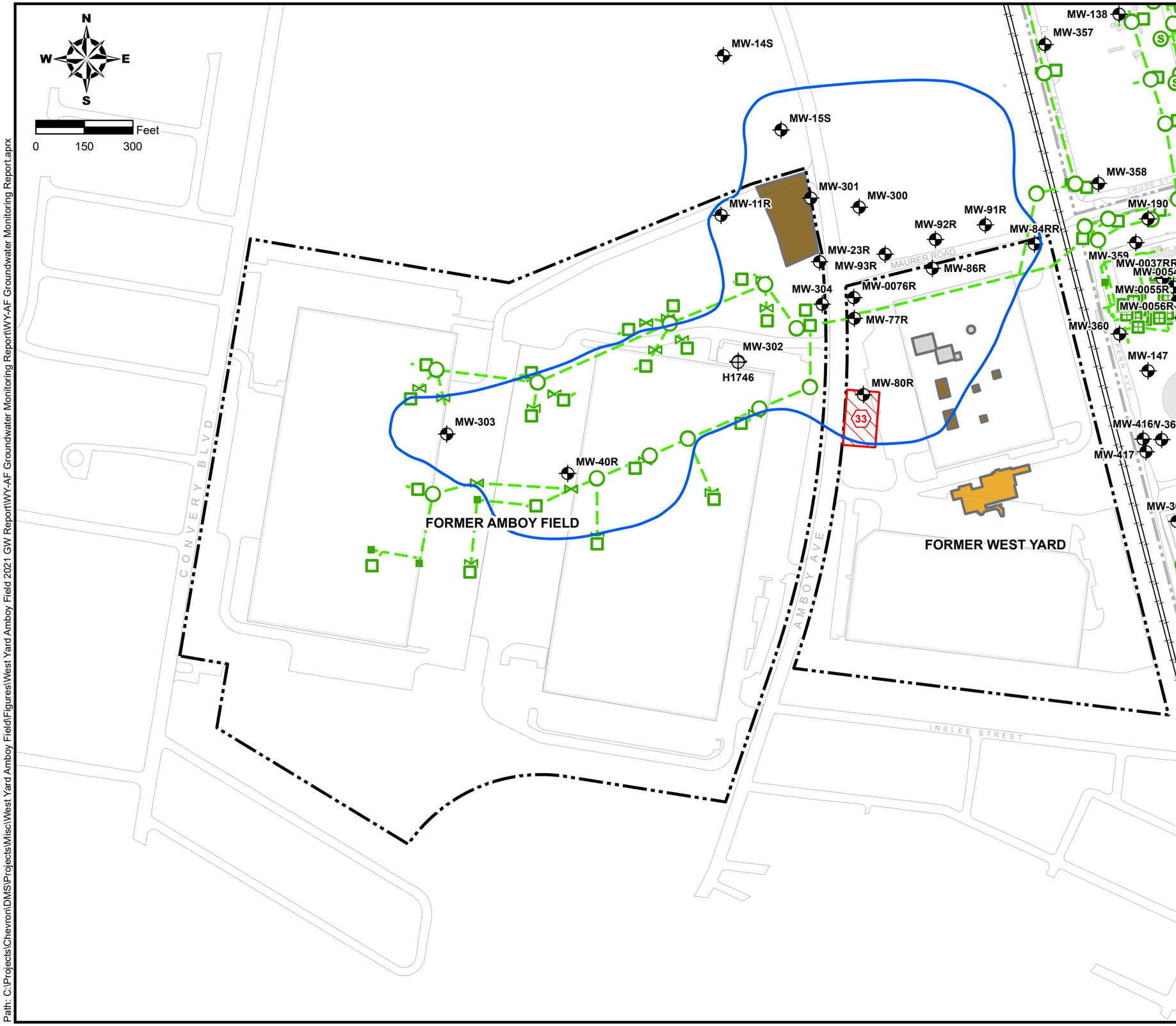
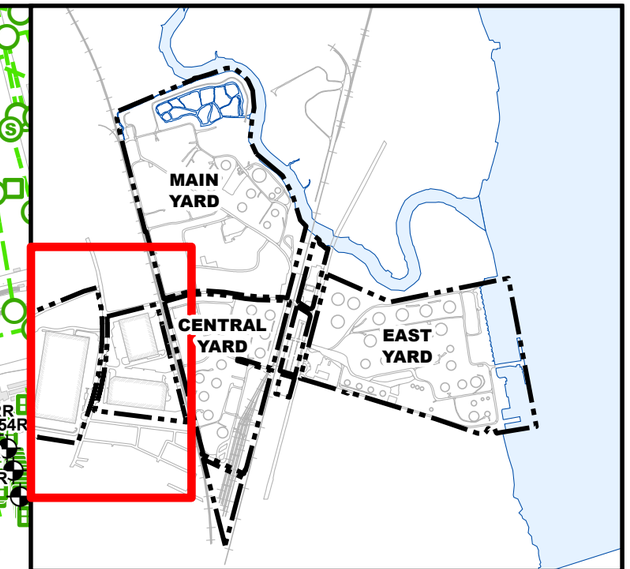
Chevron

SITE LOCATION ON A USGS MAP

WEST YARD AND AMBOY FIELD

DATE: 8/9/2021	DWN: ADW
	CHKD: CK
PROJECT #: 452501-09800	FIG #: 1





LEGEND

- Deep Temporary Well Point
- Shallow Monitoring Well
- Former No. 2 Amine Plant Components
- Former Sulfur Recovery Units
- Former No. 2 Power Plant
- SWMU 33 Boundary
- Former Amboy Field/Former West Yard Property Line
- Proposed CEA Boundary

Historic Subsurface Features

- OWSS, CI Shutoff Valve
- OWSS, Catch Basin
- OWSS, Cleanout
- OWSS, Drain
- OWSS, Manhole
- OWSS, Sump
- Oily-Water Sewer System

WEST YARD AND AMBOY PROPOSED CEA MAP

WEST YARD AND AMBOY FIELD

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
452501-09800	6/29/2022	ADW	AF	2

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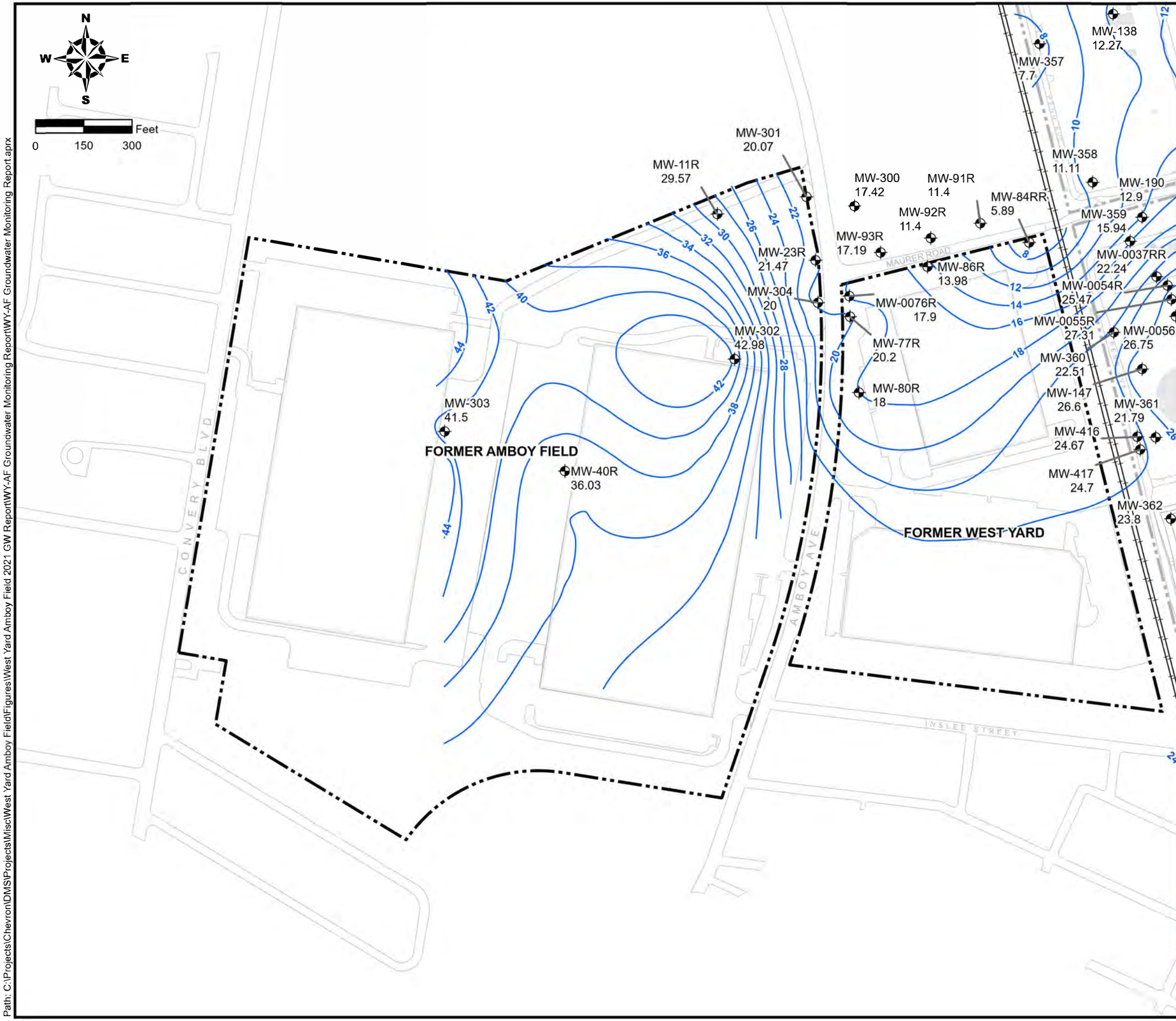

LEGEND

- Shallow Monitoring Well
- Q2 2020 Shallow Groundwater Contour
- Former Amboy Field/Former West Yard Property Line

NOTE: Groundwater elevations were measured in feet relative to mean sea level.

SHALLOW GROUNDWATER CONTOURS - Q2 2020

WEST YARD AND AMBOY FIELD

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
452501-09800	6/8/2021	ADW	CK	3a

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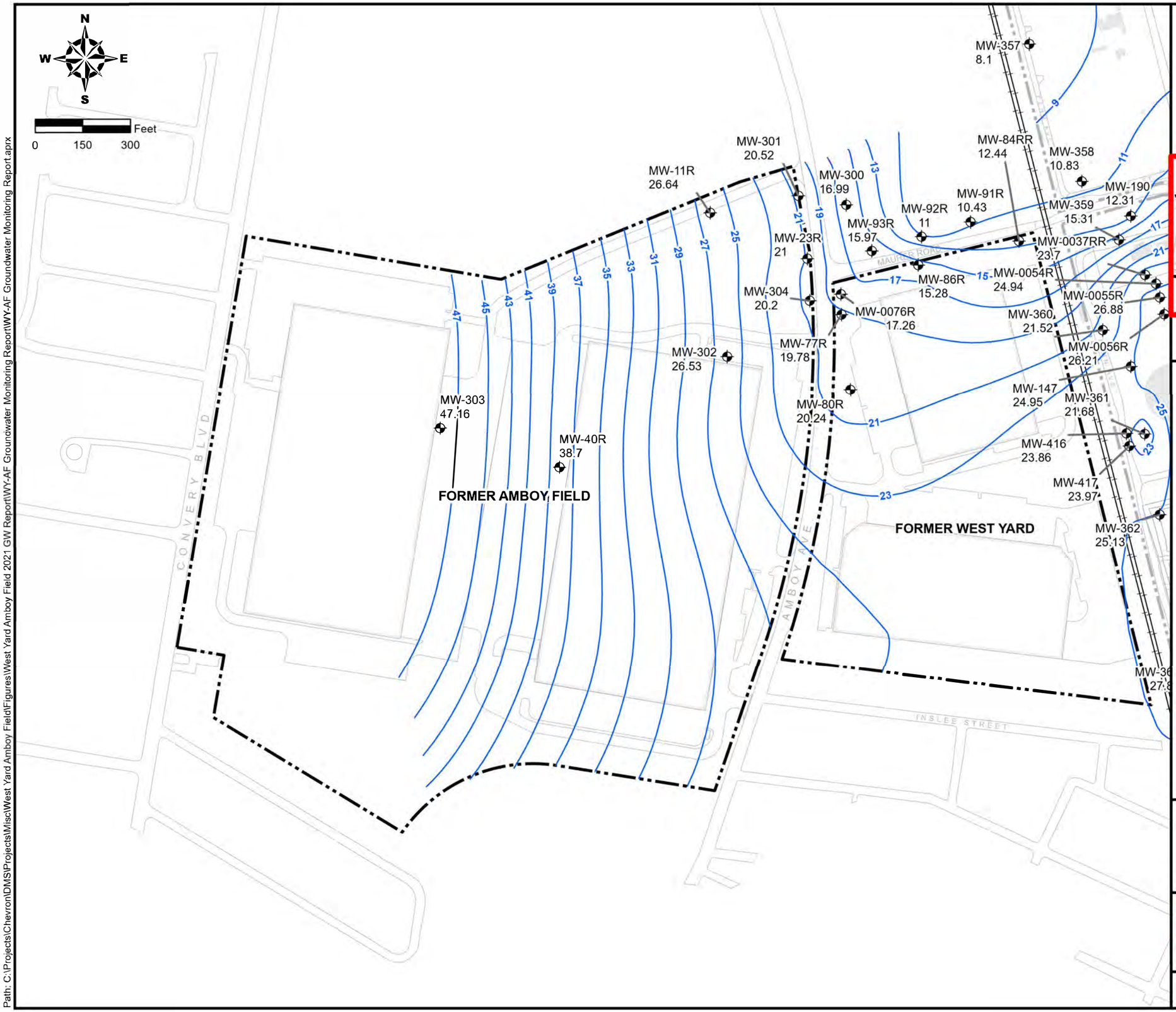

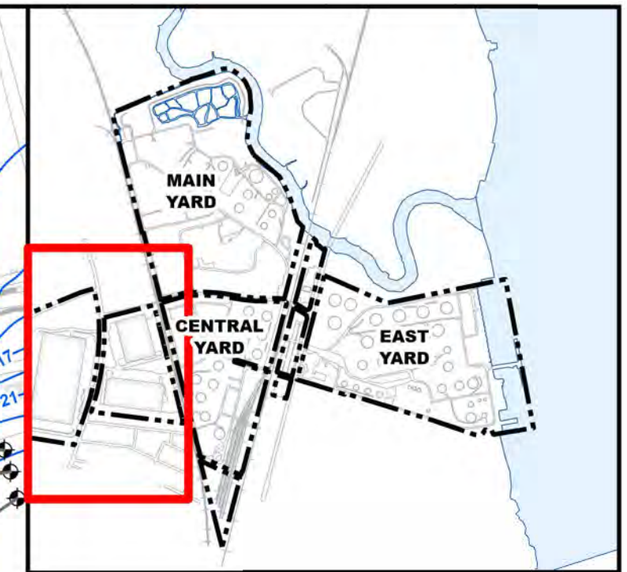

LEGEND

- Shallow Monitoring Well
- Q4 2020 Shallow Groundwater Contour
- Former Amboy Field/Former West Yard Property Line

NOTE: Groundwater elevations were measured in feet relative to mean sea level.

SHALLOW GROUNDWATER CONTOURS - Q4 2020

WEST YARD AND AMBOY FIELD

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
452501-09800	6/8/2021	ADW	CK	3b

Path: C:\Projects\Chevron\DMS\Projects\Misc\West Yard Amboy Field\Figures\West Yard Amboy Field 2021 GW Report\WY-AF Groundwater Monitoring Report\WY-AF Groundwater Monitoring Report.aprx

Ground Water Monitoring Plan for Ground Water Remedial Action Permit (version 1.0; May 17, 2012)

INSTRUCTIONS

RESET DATA

PRINT

Case Name: West Yard and Amboy Field
Program Interest (PI) ID #: 003621
Spreadsheet Submission Date: 10/19/2021

Wells to Be Sampled	Type of Well	Easting	Northing	Sampling Schedule	Reporting Schedule	Parameters for Each Well	CASRN
MW-0076R	Plume sampling point	555654.4	620259.5	Yearly	Biennially	Iron	7439-89-6
MW-0076R	Plume sampling point	555654.4	620259.5	Yearly	Biennially	Sodium	7440-23-5
MW-77R	Plume sampling point	555656.2	620195.4	Yearly	Biennially	Iron	7439-89-6
MW-77R	Plume sampling point	555656.2	620195.4	Yearly	Biennially	Sodium	7440-23-5
MW-77R	Plume sampling point	555656.2	620195.4	Yearly	Biennially	Sulfate	14808-79-8
MW-80R	Plume sampling point	555684.1	619959.9	Yearly	Biennially	Iron	7439-89-6
MW-80R	Plume sampling point	555684.1	619959.9	Yearly	Biennially	Sulfate	14808-79-8
MW-80R	Plume	555684.1	619959.9	Yearly	Biennially	Ammonia (Total)	7664-41-7
MW-80R	Plume sampling point	555684.1	619959.9	Yearly	Biennially	Nitrate	14797-55-8
MW-84RR	Sentinel	556213.6	620426.2	Yearly	Biennially	Iron	7439-89-6
MW-84RR	Sentinel	556213.6	620426.2	Yearly	Biennially	Sulfate	14808-79-8
MW-86R	Plume sampling point	555897.1	620351	Yearly	Biennially	Iron	7439-89-6
MW-86R	Plume sampling point	555897.1	620351	Yearly	Biennially	Sulfate	14808-79-8
MW-91R	Plume fringe	556061.2	620485.7	Yearly	Biennially	Iron	7439-89-6
MW-91R	Plume fringe	556061.2	620485.7	Yearly	Biennially	Ammonia (Total)	7664-41-7
MW-91R	Plume fringe	556061.2	620485.7	Yearly	Biennially	Nitrate	14797-55-8
MW-91R	Plume fringe	556061.2	620485.7	Yearly	Biennially	Total Organic Carbon	108-88-3
MW-92R	Plume sampling point	555907.2	620440	Yearly	Biennially	Iron	7439-89-6
MW-92R	Plume sampling point	555907.2	620440	Yearly	Biennially	Ammonia (Total)	7664-41-7
MW-92R	Plume sampling point	555907.2	620440	Yearly	Biennially	Nitrate	14797-55-8
MW-92R	Plume sampling point	555907.2	620440	Yearly	Biennially	Total Organic Carbon	108-88-3
MW-93R	Plume sampling point	555751.2	620395.3	Yearly	Biennially	Iron	7439-89-6
MW-93R	Plume sampling point	555751.2	620395.3	Yearly	Biennially	Ammonia (Total)	7664-41-7
MW-93R	Plume sampling point	555751.2	620395.3	Yearly	Biennially	Nitrate	14797-55-8
MW-93R	Plume sampling point	555751.2	620395.3	Yearly	Biennially	Total Organic Carbon	108-88-3
MW-11R	Sentinel	555243.9	620514.5	Yearly	Biennially	Iron	7439-89-6
MW-11R	Sentinel	555243.9	620514.5	Yearly	Biennially	Ammonia (Total)	7664-41-7
MW-11R	Sentinel	555243.9	620514.5	Yearly	Biennially	Nitrate	14797-55-8
MW-11R	Sentinel	555243.9	620514.5	Yearly	Biennially	Total Organic Carbon	108-88-3
MW-300	Plume fringe	555671	620539.6	Yearly	Biennially	Iron	7439-89-6
MW-301	Plume fringe	555521.1	620568.1	Yearly	Biennially	Iron	7439-89-6
MW-301	Plume fringe	555521.1	620568.1	Yearly	Biennially	Sulfate	14808-79-8
MW-301	Plume fringe	555521.1	620568.1	Yearly	Biennially	Ammonia (Total)	7664-41-7
MW-301	Plume fringe	555521.1	620568.1	Yearly	Biennially	Nitrate	14797-55-8
MW-302	Sentinel	555297.5	620063.8	Yearly	Biennially	Iron	7439-89-6
MW-302	Sentinel	555297.5	620063.8	Yearly	Biennially	Sulfate	14808-79-8
MW-303	Sentinel	554395.9	619839	Yearly	Biennially	Iron	7439-89-6
MW-304	Plume sampling point	555556.8	620239.2	Yearly	Biennially	Iron	7439-89-6

Attachment

PARSONS

200 Cottontail Lane South, Somerset, New Jersey 08873
Telephone: 732.537.3500 / Fax: 732.537.3502 / parsons.com

August 27, 2021

Mr. Charlie Zielinski
Bureau of Case Management
New Jersey Department of Environmental Protection
401 East State Street
PO Box 420
Mail Code 401-05F
Trenton, New Jersey 08625-0420

Subject: *Groundwater Monitoring Report for the West Yard and Amboy Field*
Former Chevron Perth Amboy Facility, Perth Amboy, New Jersey
SRP PI #003621

Dear Mr. Zielinski,

Enclosed please find the Groundwater Monitoring Report for the West Yard and former Amboy Field. This report provides the results of the groundwater sampling programs performed in accordance with the Remedial Action Work Plans and Classification Exemption Areas in both areas. The report also provides a comprehensive evaluation of the attenuation and migration of ammonia and includes recommendations for future activities in both areas.

Should you require any additional information, please contact me directly at (732) 738-2226.

Sincerely,

Todd Frantz
Senior Project Manager
Parsons

Enclosure (as stated)

cc: Mr. Brian Connors, CEMC

GROUNDWATER MONITORING REPORT

West Yard and Amboy Field

FORMER CHEVRON PERTH AMBOY FACILITY
PERTH AMBOY, NEW JERSEY

Prepared for:

Chevron Environmental Management Company
Perth Amboy, New Jersey 08861

Prepared by:

200 Cottontail Lane
Somerset, New Jersey 08873

AUGUST 2021
Project No. 452501.09800

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LIST OF ACRONYMS

Acronym	Definition / Description
bgs	Below ground surface
CEA	Classification Exception Area
COC	Constituent of Concern
DEA	Diethanolamine
DO	Dissolved oxygen
DVM	Data Validation Module
ETP	Effluent Treatment Plant
FSAP/QAPP	Field Sampling and Analysis Plan / Quality Assurance Project Plan
GWQS	Groundwater Quality Standards
MK	Mann-Kendall
MNA	Monitored natural attenuation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N.J.A.C.	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
ORP	Oxidation reduction potential
OWSS	Oily Water Sewer System
Parsons	Parsons Environment and Infrastructure, Inc.
RAP	Remedial Action Permit
RASR	Remedial Action Selection Report
RAWP	Remedial Action Work Plan
RI	Remedial Investigation
SI	Site Investigation
SRU	Sulfur Recovery Unit
SVOC	Semi-volatile organic compound
SWMU	Solid Waste Management Unit
TAL	Target Analyte List
TOC	Total organic carbon
USEPA	United States Environmental Protection Agency
Units	
µg/L	Microgram(s) per liter
mL/min	Milliliter(s) per minute
mV	Millivolt(s)

1.0 INTRODUCTION

Parsons Environment and Infrastructure, Inc. (Parsons) has prepared this groundwater monitoring report for the former West Yard and former Amboy Field (**Figure 1**). This report presents a comprehensive evaluation of the attenuation and distribution of ammonia in both areas because they are hydraulically connected. The primary purpose of the groundwater monitoring program in the West Yard and Amboy Field is to determine if natural attenuation of constituents of concern (COCs) is occurring. The current report focuses primarily on ammonia attenuation, and covers the period comprising the fourth quarter of 2009 through the first quarter of 2021.

This groundwater monitoring report is being submitted to the New Jersey Department of Environmental Protection (NJDEP) for review and approval.

1.1 General Site History

1.1.1 West Yard

Operations in the West Yard began in the early 1950's with the construction of the No. 2 Power Plant. Located in the central portion of the West Yard (**Figure 2**), the Power Plant generated electricity and steam for use throughout the Refinery. The Power Plant ceased operations in the mid-1990s and was demolished in 2000. The former No. 2 Amine Plant, in the northwest portion of the West Yard, operated between 1976 and 1993. It cleaned or scrubbed refinery off-gas (sour gas) to reduce sulfur dioxide emissions. Sour gas contained hydrogen sulfide mixed with light refinery fuel gases. Hydrogen sulfide was removed by contacting the sour gas with diethanolamine (DEA). DEA is a nitrogen-containing compound. The resulting amine-hydrogen sulfide mixture (rich DEA) was further processed to recover sulfur and enable the reuse of the DEA. The hydrogen sulfide-free gases were used throughout the Refinery as fuel. Sulfur was recovered as molten sulfur and sulfur dioxide in off-gases. The molten sulfur was stored in below-grade containment units at the No. 2 Amine Plant and in Sulfur Recovery Units (SRUs) between the No. 2 Amine Plant and the Power Plant (**Figure 2**). The SRUs were constructed in 1978 and operated until 1984. Sulfur dioxide emissions were further reduced by treatment with a limestone slurry that was re-circulated through the process. A temporary slurry pit was located west of the SRUs along Amboy Avenue (**Figure 2**). Fuel gas scrubbing operations in the West Yard were discontinued between 1990 and 1993. Two sewer systems serviced the West Yard. Both are shown on **Figure 2**. The Oily Water Sewer System (OWSS) captured runoff from tank basins and process areas and directed it to the Refinery's Effluent Treatment Plant (ETP). A storm sewer system serviced non-operational or non-process areas of the West Yard.

Groundwater was delineated during a site investigation in 2002 and 2003. The results of the investigation, and a description of the physical setting, were presented in the April 2003 Remedial Action Selection Report and Remedial Action Work Plan (RASR/RAWP) for ammonia (URS 2003a), the RASR/RAWP for metals and sulfate (URS 2003b), and the associated Classification Exception Areas (CEAs) (URS 2003c).

The West Yard was eventually sold to the Matrix Development Group in 2003 and was redeveloped following remedial activities. The area is currently occupied by two large retail warehouses. Currently, approximately 10.01 acres of the former West Yard is deed restricted for industrial use. The NJDEP granted a Remedial Action Permit (RAP) for soil in the West Yard (RA Permit #RAP120005) in August 2013 (NJDEP 2013).

1.1.2 Amboy Field

Historically, Amboy Field was used for the bulk storage of liquid petroleum products and sulfur recovery from refinery fuel gases and process water. Twenty above ground storage tanks and associated manifolds and piping were constructed in the early 1950's and removed between 1997 and 2001.

The extent of soil and ground water contamination within Amboy Field was delineated during a site investigation in 2002 and 2003. The results of the investigation, and a description of the physical setting, were presented in the Amboy Field Site Investigation/Remedial Investigation (SI/RI) Report, dated October 2003 (Chevron 2003b).

After remedial actions were completed, the Amboy Field parcels were sold to Morris Perth Amboy Associates LLC, who currently operates two large warehouses on the parcel. Currently, two areas on the property totaling 1.35 acres are deed restricted for industrial use for an indeterminate time. The NJDEP granted a RAP for soil in Amboy Field (RA Permit #RAP120002) in March 2012 (NJDEP 2012b).

2.0 SUMMARY OF REMEDIAL ACTIONS

2.1 Excavations

2.1.1 West Yard

The following sources of ammonia in West Yard ground water were removed during previous remedial activities:

- Former No. 2 Amine Plant and associated below-grade pits and sumps. The Plant was demolished between 2000 and 2001 and below-grade features were excavated between October 2000 and March 2001.
- Former SRUs and associated below-grade pits and sumps. The SRUs were demolished in 1991 and the below-grade features were excavated between October and November 2000.
- The OWSS was taken out of service, cleaned, and inspected between 1998 and 2001. It was decommissioned and sealed in early 2004.
- Material in SWMU 33 was removed in 1979 and the impoundment was backfilled and taken out of service.

The details of these activities were discussed in previous submittals.

2.1.2 Amboy Field

Soil excavation was the chosen remedial action for impacted soils, and remedial activities were conducted between November 2003 and April 2004. Approximately 20,500 cubic yards of soil was excavated. Soil excavation and post excavation sampling results were described in the Amboy Field Remedial Action Report, dated April 2005 (Chevron 2005a).

2.2 Groundwater Monitoring Programs

2.2.1 West Yard

The current groundwater monitoring program for the West Yard is being performed in accordance with the April 2003 RASR/RAWP for ammonia (URS 2003a), the RASR/RAWP for metals and sulfate (URS 2003b), and the associated Classification Exception Areas (CEAs) (URS 2003c). The April 2003 RASR/RAWPs presented the plan for monitored natural attenuation (MNA) at the West Yard. The January 2004 RASR (URS 2004) for Ammonia in West Yard Groundwater was submitted to the NJDEP as a contingency plan that described active remedial measures to be performed if MNA was not successful in reducing ammonia concentrations in groundwater, and established ammonia as the primary COC for the West Yard.

2.2.2 Amboy Field

The current groundwater monitoring program in Amboy Field is being performed in accordance with the September 2005 RAWP/CEA Application for Amboy Field Groundwater (Chevron 2005b). The September 2005 RAWP/CEA presented the plan for MNA of ammonia in

groundwater at Amboy Field. Groundwater sampling has been conducted on a quarterly basis since fourth quarter 2009. One or more of the following parameters were analyzed in groundwater samples from the monitoring wells, depending on the location of the individual well:

- Semi-volatile Organic Compounds (SVOCs)
- Target Analyte List (TAL) Metals
- Ammonia
- Total organic carbon (TOC)
- Nitrate/nitrite
- Sulfate/sulfide
- Ferrous iron
- Alkalinity
- Phosphorous

SVOCs, ammonia, and sodium are COCs in Amboy Field.

2.3 Installation of Monitoring Wells

Groundwater monitoring wells associated with the West Yard were installed in 2001. Replacement wells needed due to construction activities were installed between 2002 and 2015. Monitoring wells were installed to depths ranging from 12 to 21 feet below ground surface (bgs) and were screened across the water table.

Groundwater monitoring wells associated with Amboy Field were installed between 1991 and 2009. Monitoring wells were installed to depths ranging from 12 to 35 feet bgs and were screened across the water table.

The monitoring well networks in both the West Yard and Amboy Field consist of eight permanent monitoring wells each. Monitoring wells were installed by a New Jersey-licensed drilling contractor in accordance with N.J.A.C.[1] 7:9D (NJDEP 2009). Monitoring well construction details can be referenced in **Table 1** and monitoring well records can be found in **Appendix A**. All monitoring well locations are shown on **Figure 2**.

[1] New Jersey Administrative Code

3.0 TECHNICAL OVERVIEW

3.1 Modification of Low Flow Sampling Procedure

Chevron sampled monitoring wells in the West Yard and Amboy Field using a low-flow groundwater sampling protocol described in the Field Sampling and Analysis Plan/Quality Assurance Project Plan (FSAP-QAPP) (Chevron 2019). Although the procedure for groundwater sampling at the Chevron Perth Amboy Site has been modified, individual components of the sampling methodology are consisted with requirements outlined in the NJDEP Field Sampling Procedures Manual (NJDEP 2005). Below is a description of the modified low-flow groundwater sampling technique employed at the Site.

To begin the sampling process, low-flow purging is performed with a peristaltic pump set at a pumping rate of 100 milliliters per minute (mL/min). This pumping rate is consistent with procedures described in the USEPA Region 2's *Groundwater Sampling Procedure Low Stress (Low Flow) Purging and Sampling* methodology, which recommends a pumping rate of between 200 and 500 mL/min for purging and 100 to 250 mL/min for sampling. The use of the 100 mL/min pumping rates does cause a drawdown of more than 0.25 feet in some wells and provides more representative measurements of field parameters.

Geochemical parameters are measured using a Horiba U-22 or YSI 6920 water quality meter with an in-line, flow through cell. Low-flow purging is performed until geochemical parameters have stabilized for three successive intervals. An inorganic groundwater sample (metals) is then collected directly from the pump discharge into laboratory supplied glassware. A Geopump-2 peristaltic pump with dedicated silicon and Teflon® tubing is used for both purging and sampling.

If geochemical parameters do not stabilize after four hours of low-flow purging, or if the well goes dry, then purging is stopped and the water level in the well is allowed to recover. A groundwater sample is then collected for metals analysis usually within two hours, but not longer than 24 hours after the first sampling attempt. Wells in the West Yard are often purged dry during collection of groundwater for metal analyses.

After the sample for metals analysis has been collected, the well is purged of three volumes of water and samples are then collected for organic parameters. The purge pumping rates are usually set at less than one gallon per minute. A dedicated polyethylene bailer is used to collect these samples.

Purgewater collected during low-flow and three volume purge sampling and discharged to the former Chevron Facility ETP through the OWSS in the Facility's Main Yard.

3.2 Sample Collection

3.2.1 Quality Assurance and Quality Control

Field duplicate samples are used to assess the variability of a matrix at a specific sampling point and the reproducibility of the sampling method and data analysis. These samples are defined as second samples collected from the same location, at the same time, in the same

manner as the original samples, and placed into a separate container. Duplicates are collected at a frequency of one per 20 samples (5% of total samples) collected for each event. Each duplicate sample is analyzed for the same parameters as the original sample collected that day. Thus, the precision of the entire data generation process (field and laboratory) can be evaluated.

Matrix Spike (MS)/MS Duplicate (MSD) pairs are collected like field blanks at the frequency of one per 20 samples (5% of total samples) per matrix or per batch, whichever is more frequent. The purpose of the MS is to assess matrix effects on percent recovery of the compound or analyte. MS data can also be used to measure accuracy of the method, with the caution that specific matrix effects may obscure the results. MSD measures the same features as MS, with the additional information on relative percent difference between the MS and MSD. This is a measure of the precision of the method.

3.2.2 Analytical Methods

Groundwater samples were collected in laboratory-provided bottles and placed on ice in a sample cooler. The sample matrix, identification number, date, time, requested analytical parameter and project-related information were recorded on the bottle label and on the chain-of-custody form provided by Eurofins Lancaster Laboratory. Quality control samples were collected as per the QAPP guidelines (Chevron 2019). Groundwater samples were analyzed using the following methods:

- Iron – USEPA SW-846 Method 6010D
- Nitrate – USEPA Method 353.2
- Nitrite – USEPA Method 353.2
- Sulfide – Method SM 4500 S2 F
- Sulfate – USEPA Method 375.4
- Ammonia – Method 4500 NH3 C
- Phosphorus – USEPA Method 365.1
- Alkalinity – Method SM2320B
- SVOCs – USEPA SW-846 Method 8270E

The laboratory analytical results were compared to the NJDEP Groundwater Quality Standards (GWQS) to evaluate potential groundwater impacts.

4.0 GROUNDWATER SAMPLING RESULTS

4.1 Groundwater Flow Direction

Depth to groundwater measurements were collected from monitoring wells in the West Yard and Amboy Field on a quarterly basis as synoptic events (i.e., within a 24-hour period) and were measured to the nearest 0.01 foot. A summary of groundwater elevations is provided in **Tables 2a** and **2b**. Groundwater elevation contours were prepared using linear interpolation methods and were adjusted or confirmed by a hydrogeologist with knowledge of the Site's hydrogeological conditions. Groundwater contours for 2020 are provided in **Figures 3a** and **3b**. Groundwater generally flows north/northeast in the West Yard and to the east in Amboy Field.

4.2 Groundwater Analytical Results

Groundwater laboratory analytical data for the sampling events conducted between fourth quarter 2009 and first quarter 2021 are presented in **Tables 3** through **6**. Field parameter results are provided in **Table 7**. Analytical results for total iron, total sodium, ammonia, sulfate, nitrate, and TOC between fourth quarter 2019 and first quarter 2021 are provided on **Figure 4**. Laboratory data packages for the groundwater sampling events are included in **Appendix B**. Results are discussed below by parameter.

4.2.1 West Yard

Groundwater samples in the West Yard were collected from monitoring wells MW-0076R, MW-77R, MW-80R, MW-84RR, MW-86R, MW-91R, MW-92R, and MW-93R between November 2009 and January 2021 and analyzed for TAL metals, alkalinity, ammonia, nitrate, nitrite, sulfate, sulfide, TOC, and total phosphorus.

TAL Metals

TAL metals results are summarized in **Table 4a**. The groundwater monitoring data indicate the following:

Total iron concentrations throughout the West Yard ranged from non-detect to 160,000 micrograms per liter (µg/L). During the last sampling event for each West Yard monitoring well, total iron exceeded the NJDEP GWQS (300 µg/L) at all monitoring wells, except for MW-80R. During the latest sampling event, total iron concentrations ranged from 223 to 67,000 µg/L. Iron is regularly detected regularly above the NJDEP GWQS throughout many portions of the Former Chevron Facility and is associated with the presence of clays and silts in soil and are not due to historical processing or storage activities. Therefore, iron was not considered a COC in West Yard groundwater and NJDEP did not require Chevron to include it in the RASR/RAWP and CEA for West Yard groundwater.

Total sodium has been sampled only at monitoring wells MW-0076R, MW-77R, and MW-84RR. Total sodium concentrations have ranged from 12,300 to 1,750,000 µg/L. During the last groundwater sampling event, sodium exceeded the NJDEP GWQS (50,000 µg/L) at monitoring wells MW-0076R and MW-77R with concentrations ranging from 18,600 to 91,000 µg/L.

Other TAL metals including nickel, cadmium, and thallium exceeded their respective NJDEP GWQS during historic sampling events at monitoring wells MW-0076R, MW-77R, and MW-84RR. However, during the latest groundwater sampling event at these monitoring wells, nickel, cadmium, and thallium were all below the NJDEP GWQS.

Ammonia

Chevron has historically reported the West Yard groundwater monitoring data as ammonia-nitrogen, total ammonia, or ammonia. For the purposes of this report, the term "ammonia" is used to refer to the sum of ammonium and un-ionized ammonia (i.e., total ammonia nitrogen).

Ammonia results are summarized in **Table 5a**. Ammonia concentrations throughout the West Yard ranged from non-detect to 25,700 µg/L. During the last sampling event for each West Yard monitoring well, ammonia exceeded the NJDEP GWQS (3,000 µg/L) at monitoring wells MW-80R, MW-91R, MW-92R, and MW-93R. During the latest sampling event, ammonia concentrations ranged from non-detect to 14,000 µg/L.

Sulfate

Sulfate results are summarized in **Table 5a**. Sulfate concentrations throughout the West Yard ranged from non-detect to 1,580,000 µg/L. During the last sampling event for each West Yard monitoring well, sulfate exceeded the NJDEP GWQS (250,000 µg/L) at monitoring wells MW-77R, MW-80R, MW-84RR, and MW-86R. During the latest sampling event, sulfate concentrations ranged from non-detect to 1,390,000 µg/L.

Nitrate

Nitrate results are summarized in **Table 5a**. Nitrate concentrations throughout the West Yard ranged from non-detect to 7,200 µg/L. Nitrate has never exceeded the NJDEP GWQS (10,000 µg/L) in any West Yard monitoring well. During the latest sampling event, nitrate concentrations were all non-detect, except for MW-80R (130 µg/L).

Field Parameters

Dissolved oxygen (DO) concentrations are indicative of aerobic or anaerobic conditions and can be used to evaluate biodegradation pathways. Oxidation reduction potential (ORP) indicates the tendency for groundwater to accept or transfer electrons. The table below outlines the average and range of DO and ORP values between 2016 and 2021.

Location	Average DO (mg/L)	Range of DO (mg/L)	Average ORP (mV)[2]	Range of ORP (mV)
MW-0076R	2.14	0.33 to 3.98	27.5	-135.9 to 195.0
MW-77R	1.71	0.09 to 7.06	-29.9	-156.0 to 203.0
MW-80R	2.97	0.24 to 8.99	177.6	-74.0 to 403.0
MW-84RR	3.78	0.71 to 8.09	51.2	-107 to 240.8
MW-86R	2.61	0.19 to 6.81	89.7	-6.0 to 278.0

[2] Millivolts

Location	Average DO (mg/L)	Range of DO (mg/L)	Average ORP (mV)[2]	Range of ORP (mV)
MW-91R	1.25	0.02 to 5.01	-26.7	-136.0 to 142.0
MW-92R	1.43	0.10 to 6.63	-76.9	-143.0 to 47.0
MW-93R	1.32	0.14 to 6.66	-69.7	-134.0 to 61.0

DO concentrations and ORP values indicate aerobic conditions in monitoring wells MW-0076R, MW-80R, MW-84RR, and MW-86R and anerobic conditions in monitoring wells MW-77R, MW-91R, MW-92R, and MW-93R.

4.2.2 Amboy Field

Groundwater samples in Amboy Field were collected from monitoring wells MW-11R, MW-300, MW-301, MW-302, MW-303, and MW-304 between November 2009 and January 2021 and analyzed for metals, alkalinity, ammonia, nitrate, nitrite, sulfate, sulfide, TOC, and total phosphorus. SVOC samples were analyzed from monitoring wells MW-23R, MW-302, MW-303, and MW-40R.

SVOCs

SVOCs did not exceed the NJDEP GWQS during the groundwater sampling events.

TAL Metals

TAL metals results are summarized in **Table 4b**. The groundwater monitoring data indicate the following:

Total iron concentrations throughout Amboy Field ranged from non-detect to 738,000 µg/L. During the last sampling event for each Amboy Field monitoring well, total iron exceeded the NJDEP GWQS (300 µg/L) at monitoring wells MW-11R, MW-300, MW-301, MW-303, and MW-304. During the latest sampling event, total iron concentrations ranged from 260 to 81,000 µg/L. Iron is regularly detected regularly above the NJDEP GWQS throughout many portions of the Former Chevron Facility and is associated with the presence of clays and silts in soil and are not due to historical processing or storage activities. Therefore, iron was not considered a contaminant of concern in Amboy Field groundwater.

Total sodium has been sampled only at monitoring wells MW-301 and MW-304. Total sodium concentrations have ranged from 29,300 to 221,000 µg/L. During the last groundwater sampling event, sodium exceeded the NJDEP GWQS (50,000 µg/L) at both monitoring wells, with concentrations ranging from 51,400 to 140,000 µg/L.

Other TAL metals including aluminum, beryllium, manganese, nickel, antimony, thallium, and nickel exceeded their respective NJDEP GWQS at monitoring wells MW-11R, MW-300, MW-301, and MW-304. As described in the SI/RI Report (Chevron 2003), these metals can be associated with the presence of clays and silts in soil and are not due to historical processing or storage activities. Therefore, these metals are not considered contaminants of concern in Amboy Field groundwater.

Arsenic and lead have also exceeded the NJDEP GWQS (3 µg/L and 5 µg/L, respectively) during historic sampling in monitoring wells MW-301 and MW-304; however, during the latest groundwater sampling event at these monitoring wells, arsenic and lead were detected below the NJDEP GWQS.

Ammonia

Ammonia results are summarized in **Table 5b**. Ammonia samples have been collected only from monitoring wells MW-11R, MW-300, and MW-301 due to their proximity to the Former Sulfur Recovery Unit (**Figure 2**). Ammonia concentrations in these monitoring wells ranged from non-detect to 21,800 µg/L. During the last sampling event, ammonia exceeded the NJDEP GWQS (3,000 µg/L) at monitoring well MW-301 only. During the latest sampling event, ammonia concentrations ranged from non-detect to 12,000J[3] µg/L.

Sulfate

Sulfate results are summarized in **Table 5b**. Sulfate concentrations in Amboy Field ranged from non-detect to 971,000 µg/L. During the last sampling event for each Amboy Field monitoring well, sulfate exceeded the NJDEP GWQS (250,000 µg/L) at monitoring wells MW-301 and MW-302. During the latest sampling event, sulfate concentrations ranged from 65,000J to 520,000J µg/L.

Nitrate

Nitrate results are summarized in **Table 5b**. Nitrate concentrations in Amboy Field ranged from non-detect to 5,200 µg/L. Nitrate has never exceeded the NJDEP GWQS (10,000 µg/L) in any West Yard monitoring well. During the latest sampling event, nitrate concentrations were all non-detect, except for MW-302 (3,100J µg/L).

Field Parameters

DO concentrations are indicative of aerobic or anaerobic conditions and can be used to evaluate biodegradation pathways. ORP indicates the tendency for groundwater to accept or transfer electrons. The table below outlines the average and range of DO and ORP values between 2016 and 2021.

Location	Average DO (mg/L)	Range of DO (mg/L)	Average ORP (mV)	Range of ORP (mV)
MW-11R	1.11	-0.42 to 2.95	-25.4	-110.0 to 100.0
MW-23R	3.87	0.61 to 12.16	144.2	-13.0 to 316.3
MW-300	1.72	0.19 to 5.34	86.5	-80.0 to 207.8
MW-301	1.86	-0.90 to 5.30	194.2	0.4 to 412.0
MW-302	3.02	0.44 to 6.45	124.6	-95.0 to 295.1
MW-303	2.48	0.31 to 5.99	191.7	10.0 to 405.0
MW-304	0.63	0.00 to 2.33	-34.0	-121.0 to 150.0

[3] J is a laboratory qualifier indicating the analyte concentration is estimated.

Location	Average DO (mg/L)	Range of DO (mg/L)	Average ORP (mV)	Range of ORP (mV)
MW-40R	2.68	0.18 to 10.42	304.2	76.0 to 436.3

DO concentrations and ORP values indicate aerobic conditions in monitoring wells MW-23R, MW-300, MW-301, MW-302, MW-303, and MW-40R and anaerobic conditions in monitoring wells MW-11R and MW-304.

4.3 Data Validation

Analytical results were reviewed to determine the reliability of the data and assess limitations on their use in support of project objectives. Sample results were reviewed and evaluated for compliance with holding times, surrogate recovery, internal standard results, and detection limits.

The data validation process involved the following:

- Review of the nonconformance summary included in each laboratory data package;
- Evaluation of data quality using the Environmental Information Management Database – Data Validation Module (DVM); and
- Validation of analytical data in accordance with the USEPA Region 2 Standard Operating Procedures for organic and inorganic data review (USEPA 1999) and in accordance with NJDEP technical requirements (NJDEP 2012c).

Review of the nonconformance summaries included in the laboratory analytical data packages prepared by Eurofins Lancaster Laboratories indicated samples were received intact, sample holding times were met, and calibrations for each method were acceptable. The data validation performed by the DVM did not identify any data quality issues associated with the West Yard and Amboy Field analytical results. The manual data validation performed by Parsons also did not identify any issues with data quality relating to precision, accuracy, representativeness, reproducibility, completeness, and sensitivity.

Based on the findings of the data validation performed on the laboratory analytical results for groundwater samples collected from the West Yard and Amboy Field, the submitted data are reliable and defensible.

5.0 ATTENUATION OF AMMONIA

5.1 Redox Conditions

Negative ORP and depressed DO readings on average were observed in the West Yard at monitoring wells MW-77R, MW-91R, MW-92R, and MW-93R (**Table 6a**). Iron concentrations in monitoring wells MW-91R, MW-92R, and MW-93R, in comparison with the other West Yard wells, (**Table 5a**) is consistent with reducing conditions at these locations. The depressed sulfate concentrations in these monitoring wells are consistent with microbial sulfate reduction.

Negative ORP and depressed DO readings on average were observed in Amboy Field at monitoring wells MW-11R and MW-304 (**Table 6b**). The presence of elevated iron at both monitoring wells (**Table 5b**) is consistent with reducing conditions. The depressed sulfate concentration in MW-11R is consistent with microbial sulfate reduction.

5.2 Mann-Kendall Trend Analysis

A Mann-Kendall trend analysis was performed for ammonia, sulfate, sodium, and iron concentrations in the West Yard and Amboy Field between January 2016 and January 2021. The NJDEP (2012a) and USEPA (2009) guidance documents recommend the Mann-Kendall (MK) statistical trend analysis as a useful method for determining if groundwater samples are displaying increasing, decreasing, or stable trends. Trend results can be an important line of evidence, along with criteria comparison, to help evaluate the current condition of the groundwater plume at the site.

The MK trend test is a nonparametric test for linear trend. The statistics for the MK tests were implemented in Microsoft Excel following USEPA (2009) guidance. The MK test has the flexibility to accommodate any particular data distribution form and is less sensitive to outliers and non-detects than parametric trend tests such as linear regression. The test compares each data point to every successive measurement and determines if the change is positive or negative (the magnitude of change, or slope, is not considered). Each discordant pair was given a score of -1 and each concordant pair a score of +1. Equal values were given a score of 0. A test statistic ("S") was then computed based on the difference between the number of positive differences and negative differences. The S statistic was then compared to a critical value based on a 95% confidence level in order to accept or reject the null hypothesis of no trend (equal numbers of positive and negative differences).

In general, trend tests require at a minimum sample size (n) of four (4); however, at least eight (8) samples are preferred to draw meaningful conclusions (NJDEP 2012a; USEPA 2009). If the data contains non-detect values, a minimum of one detect is needed and the minimum reporting limits of non-detects are replaced with a common value less than the minimum detected value for the dataset as suggested in Unified Guidance (USEPA 2009).

The MK analysis portrays the following for the West Yard:

- Ammonia

    - Stable in MW-0076R, MW-80R, MW-92R, and MW-93R
    - No trend in MW-86R and MW-91R
    - Increasing in MW-84RR but is below the NJDEP GWQS
- Sulfate
    - Decreasing in MW-0076R and MW-91R
    - Probably Decreasing in MW-86R
    - Stable in MW-84RR
    - No trend in MW-80R and MW-93R (but below the NJDEP GWQS)
- Sodium
    - Decreasing in MW-84RR
    - Stable in MW-0076R
- Iron
    - Decreasing in MW-92R and MW-93R
    - Probably Decreasing in MW-91R
    - No trend in MW-0076R, MW-80R (but below the NJDEP GWQS), MW-84RR, and MW-86R

The MK analysis portrays the following for Amboy Field:

- Ammonia is stable in MW-11R, MW-300, and MW-301
- Sulfate
    - Stable in MW-302 and MW-303
    - No trend in MW-300 (but below the NJDEP GWQS) and MW-301
    - Probably Increasing in MW-11R but is below the NJDEP GWQS
- Sodium
    - Probably Decreasing in MW-301
    - Increasing in MW-304
- Iron
    - Probably Decreasing in MW-300
    - Stable in MW-301
    - No Trend in MW-11R but below the NJDEP GWQS
    - Increasing in MW-302 (but below the NJDEP GWQS) and MW-303
    - Probably Increasing in MW-304

According to NJDEP MNA Guidance, if the calculated Coefficient of Variation is equal to or less than unity, the Mann-Kendall "no-trend" result can be used to support a stable plume hypothesis. This is true for the no trend results for ammonia in MW-86R and MW-91R; sulfate in MW-80R, MW-300, and MW-301; and total iron MW-0076R, MW-80R, MW-84RR, and MW-11R. The Mann-Kendall trend analysis can be referenced in **Appendix C.**

5.3 Sulfate and Iron

In general, elevated iron and sulfate are consistent with the oxidation of reduced sulfur and/or iron sulfides. The high iron concentrations at MW-301 are likely associated with acidic groundwater (**Table 5b**) and a no trend determination for sulfate. Iron attenuation downgradient of MW-301 is indicated by an order of magnitude lower iron concentration at MW-300 and a decreasing iron trend. Oxidizing conditions in the vicinity of MW-0076R, MW-80R, MW-84RR, MW-86R, and MW-300 indicated by positive ORP and elevated DO provide appropriate conditions (i.e., dissolved oxygen) for sulfur and ferrous iron oxidation. While iron concentrations in these well are above the NJDEP GWQS, they are low compared to other monitoring wells in the area. The decreasing and stable sulfate trends are consistent with sulfate attenuation. The lower iron concentrations and a decreasing or no trend determination in these monitoring wells are consistent with iron attenuation.

Anaerobic conditions persist in the area encompassing MW-11R, MW-91R, MW-92R, and MW-93R, located in the vicinity of the former Sulfur Recovery Unit. The low sulfate concentrations in this area are likely due to its utilization within an area of more reducing conditions during biodegradation processes. This area is also associated with elevated TOC (particularly around MW-92R and MW-93R), elevated iron, and depressed sulfate consistent with the increased organic carbon concentrations enhancing microbial sulfate reduction and iron dissolution.

The stable sulfate trend at MW-303 and the increasing trend in sulfate downgradient at MW-11R is consistent with the downgradient migration of sulfate from the area of MW-303.

5.4 Ammonia Fate and Transport

Elevated ammonia concentrations in groundwater were observed in the vicinity of the former Sulfur Recovery Unit at monitoring wells MW-11R and MW-301, and to the south of this area at MW-80R. Ammonia concentrations also exceed the NJDEP GWQS at monitoring wells MW-91R, MW-92R, and MW-93R. Ammonia concentration isopleths are provided in **Figure 5**. As discussed above, monitoring wells MW-91R, MW-92R, and MW-93R are located within an area of increased TOC and more reducing groundwater conditions.

A potential source of the elevated ammonia concentrations is the anaerobic biodegradation of diethanolamine (Speranza et. al., 2006) that was used in the desulfurization process. Increased concentrations of TOC in groundwater in general correspond with higher ammonium concentrations. Increased TOC in groundwater samples from the West Yard also correspond with increased iron concentrations consistent with increased anaerobic biodegradation through microbial iron reduction.

The fate and transport of ammonia is largely controlled by the redox conditions and microbial processes, including nitrification. During nitrification, ammonia is oxidized in the presence of oxygen to nitrate. Zones where nitrification occurs are characterized by the presence of nitrate, sufficient dissolved oxygen, and oxidizing conditions. In the absence of oxygen, nitrate can be reduced by microorganisms to nitrogen gas, with nitrite and nitrous oxide generated as intermediates. The net conversion of ammonia to innocuous nitrogen gas can occur via redox cycling wherein ammonia is oxidized to nitrate under aerobic conditions, followed by nitrate

reduction to nitrogen gas under anoxic conditions. Redox conditions therefore largely dictate the potential for ammonia and nitrate transformation and attenuation in groundwater.

Nitrate was not detected in monitoring wells MW-91R, MW-92R, MW-93R, MW-11R, or MW-301. However, nitrite was detected in these monitoring wells. The detection of nitrite, combined with the stable or no ammonia trends, indicates that oxidation of ammonia is occurring under anaerobic conditions. Conversely, both nitrate and nitrite were detected at MW-80R. Aerobic conditions and a stable ammonia plume in this well indicate nitrification is occurring.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The primary purpose of the groundwater monitoring program was to determine if ammonia attenuation is occurring and if MNA is a viable site closure strategy. Physical structures related to the former SRU-1, including above-grade and below-grade components, have been removed and impacted soil has been excavated. Thus, the sources of ammonia have been removed. Ammonia concentrations are currently above the NJDEP GWQS at monitoring wells MW-80R, MW-91R, MW-92R, and MW-93R in the West Yard and at monitoring well MW-301 in Amboy Field. Ammonia concentrations in MW-11R were below the NJDEP GWQS during the January 2021 sampling event, though they historically exceeded 3,000 µg/L. The highest concentrations of ammonia were detected in the vicinity of the former Sulfur Recovery Unit. Elevated ammonia encompassing MW-91R, MW-92R, and MW-93R is associated with increased levels of TOC (potentially diethanolamine and the ammonia source) and more reducing conditions. Based on the ammonia concentration trends and a first order decay analysis, an extended period of time will be required before ammonia concentrations decrease below the NJDEP GWQS at monitoring wells MW-80R, MW-91R, MW-92R, MW-93R, and MW-301.

6.2 Recommendations

Ammonia oxidation and attenuation with reducing conditions support continuation of a monitored natural attenuation remediation approach. A CEA application, along with a groundwater RAP, will be submitted to NJDEP separately. An extended period of time will be required prior to ammonia concentrations decreasing below the NJDEP GWQS. Therefore, continuation of the groundwater sampling program is proposed and will be included in the RAP application. However, it is recommended to transition from quarterly to annual sampling. Samples will be collected in second quarter, when historic results have indicated ammonia concentrations are at their highest. A list of monitoring wells and sampling parameters is provided in the tables below.

West Yard	
Location	**Parameters**
MW-0076R	Total Iron
MW-77R	Total Iron, Sulfate
MW-80R	Total Iron, Sulfate, Ammonia, Nitrate
MW-84RR	Total Iron, Sulfate
MW-86R	Total Iron, Sulfate
MW-91R	Total Iron, Ammonia, Nitrate, TOC
MW-92R	Total Iron, Ammonia, Nitrate, TOC
MW-93R	Total Iron, Ammonia, Nitrate, TOC

Amboy Field	
Location	**Parameters**
MW-11R	Total Iron, Ammonia, Nitrate, TOC
MW-300	Total Iron
MW-301	Total Iron, Sulfate, Ammonia, Nitrate
MW-302	Total Iron, Sulfate
MW-303	Total Iron
MW-304	Total Iron

7.0 REFERENCES

Chevron. 2003. Amboy Field Site Investigation/Remedial Investigation (SI/RI) Report. October.

Chevron. 2005. Amboy Field Remedial Action Report. April.

Chevron. 2005. Remedial Action Work Plan (RAWP) and Classification Exception Area (CEA) Application for Amboy Field Groundwater. September.

Chevron. 2013. West Yard Remedial Action Permit Application for Soil. June.

Chevron. 2019. Perth Amboy Facility Corrective Measures Implementation Sampling and Analysis Plan/Quality Assurance Project Plan (FSAP-QAPP). August.

New Jersey Department of Environmental Protection. 2005. Field Sampling Procedures Manual. August 2005, Revised April 2011.

New Jersey Department of Environmental Protection. 2009. N.J.A.C. 7:9D, Well Construction and Maintenance of Abandoned Wells. April.

New Jersey Department of Environmental Protection. 2012a. Monitored Natural Attenuation Technical Guidance. March.

New Jersey Department of Environmental Protection. 2012b. Remedial Action Soil Permit – Chevron Perth Amboy, NJ – Amboy Field. March.

New Jersey Department of Environmental Protection. 2012c. Technical Guidance for the Attainment of Remediation Standards and Site-Specific Criteria. September.

New Jersey Department of Environmental Protection. 2013. Soil Remedial Action Permit – Chevron Perth Amboy West Yard. August.

Speranza, G., et.al. Mechanism of Anaerobic Degradation of Triethanolamine by a Homoacetogenic Bacterium, Biochemical and Biophysical Research Communications 349, pp. 480-484, August 2006.

United States Environmental Protection Agency. 1999. Contract Laboratory Program National Functional Guidelines for Organic Data Review, EPA-540/R-99-008 (PB99-963506), October.

United States Environmental Protection Agency. 2009. Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities. March.

URS Corporation. 2003a. Remedial Action Selection Report and Remedial Action Work Plan (RASR/RAWP) for Ammonia in Groundwater of the West Yard and Classification Exception Area (CEA) Application for Ammonia. April.

URS Corporation, 2003b. Remedial Action Selection Report and Remedial Action Work Plan (RASR/RAWP) for Metals and Sulfates in Groundwater of the West Yard. April.

URS Corporation, 2003c. Classification Exemption Area (CEA) Application for Metals and Sulfate. April.

URS Corporation. 2004. Remedial Action Selection Report. Ammonia in West Yard Groundwater. January.

TABLES

Table 1
Monitoring Well Construction Details
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Well Name	Date Installed	Date Abandoned	Northing	Easting	Well Depth (feet)	Well Diameter (inches)	Well Material	Screened Interval (feet bgs)	Screen Length (feet)	Top of Casing Elevation (feet NGVD29)	NJDEP Well Permit No.
WEST YARD											
MW-76	12/5/2001	2002	620263	555655	12	4	PVC	2 to 12	10	23.62	26-63164
MW-0076R	9/24/2002	-	620259.5	555654.4	12	4	PVC	2 to 12	10	23.50	26-65787
MW-0077	12/5/2001	9/16/2004	620218	555670	12	4	PVC	2 to 12	10	23.87	26-63165
MW-77R	10/22/2007	-	620195.4	555656.2	15	4	PVC	5.9 to 15.9	10	26.74	2600085259
MW-80	12/6/2001	10/30/2003	619957	555695	12	4	PVC	2 to 12	10	24.71	26-63168
MW-80R	10/24/2007	-	619959.9	555684.1	15	4	PVC	4.5 to 14.5	10	25.72	2600085260
MW-84	12/11/2001	12/12/2002	620352	556222	12	4	PVC	2 to 12	10	15.60	26-63172
MW-84R	9/24/2002	10/31/2003	620355.7	556228.5	12	4	PVC	2 to 12	10	15.88	26-65788
MW-84RR	10/23/2007	-	620426.2	556213.6	15	4	PVC	2 to 12	10	13.70	2600085261
MW-86	12/11/2001	10/31/2003	620296	555891	12	4	PVC	2 to 12	10	20.17	26-63159
MW-86R	10/23/2007	-	620351	555897.1	15	4	PVC	5 to 15	10	18.82	2600085262
MW-0091	2/15/2002	2003	620452.6	556065.1	12	4	PVC	2 to 12	10	13.75	26-63557
MW-91R	11/24/2015	-	620485.7	556061.2	21	2	PVC	11 to 21	10	23.91	E201508991
MW-0092	2/15/2002	2003	620411.7	555900.6	12	4	PVC	2 to 12	10	17.69	26-63558
MW-92R	11/6/2015	-	620440	555907.2	20	2	PVC	10 to 20	10	24.82	-
MW-93	2/18/2002	2003	620381.9	555753.8	13	4	PVC	3 to 13	10	20.37	26-63559
MW-0093R	11/6/2015	-	620395.3	555751.2	16	2	PVC	6 to 16	10	21.61	-
AMBOY FIELD											
MW-11	10/11/1991	3/30/2006	620516.6	555245.9	14	4	PVC	3 to 14	11	29.95	26-27059
MW-11R	9/10/2009	-	620514.5	555243.9	18	4	PVC	3 to 18	15	35.32	P200909787
MW-0023	4/24/1995	3/30/2006	620375.7	555539.59	12	4	PVC	2 to 12	10	26.62	26-40234
MW-23R	9/8/2009	-	620371.1	555548.9	12.5	4	PVC	2.5 to 12.5	10	24.29	P200909788
MW-300	9/11/2009	-	620539.6	555671	13	4	PVC	3 to 13	10	24.63	P200909786
MW-301	9/8/2009	-	620568.1	555521.1	12.5	4	PVC	2.5 to 12.5	10	23.88	P200909790
MW-302	9/4/2009	-	620063.8	555297.5	35	4	PVC	15 to 35	20	49.20	P200909791
MW-303	9/17/2009	-	619839	554395.9	18	4	PVC	3 to 18	10	52.74	P200909792
MW-304	9/9/2009	-	620239.2	555556.8	13	4	PVC	3 to 13	10	25.18	P200909793
MW-0040	2/4/1998	3/30/2006	619778.76	554805.15	23	4	PVC	13 to 23	10	51.94	26-49826
MW-40R	9/10/2009	-	619716.1	554769.9	18	4	PVC	3 to 18	15	46.20	P200909789

Table 2a
Groundwater Gauging Data - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Measurement Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (feet NGVD29)	Screen Length (feet)	Ground Surface Elevation (feet NGVD29)	Top of Casing Elevation (feet NGVD29)	Depth to LNAPL (ft below TOC)	LNAPL Elevation (feet NGVD 29)	LNAPL Thickness (feet)
MW-0076R	09/09/2010	5.96	16.83	10.00	22.80	22.79	-	-	-
	12/08/2010	5.42	17.37				-	-	-
	03/17/2011	4.15	18.64				-	-	-
	06/09/2011	4.87	17.92				-	-	-
	11/03/2011	4.56	18.23				-	-	-
	02/23/2012	5.46	17.33				-	-	-
	05/31/2012	4.62	18.17				-	-	-
	08/22/2012	4.67	18.12				-	-	-
	12/10/2012	5.37	17.42				-	-	-
	03/13/2013	4.51	18.28				-	-	-
	06/11/2013	4.57	18.22				-	-	-
	09/04/2013	5.37	17.42				-	-	-
	12/03/2013	5.74	17.05				-	-	-
	02/25/2014	4.81	17.98				-	-	-
	06/12/2014	4.98	17.81				-	-	-
	09/18/2014	5.04	17.75				-	-	-
	12/04/2014	4.88	17.91				-	-	-
	06/23/2015	4.88	17.91				-	-	-
	10/21/2015	7.45	15.34				-	-	-
	04/11/2016	4.57	18.22				-	-	-
	10/24/2016	5.60	17.19				-	-	-
	04/19/2017	6.72	16.07				-	-	-
	10/30/2017	4.91	17.88				-	-	-
	04/23/2018	4.71	18.08				-	-	-
	11/29/2018	4.70	18.10				-	-	-
	04/22/2019	6.70	16.09				-	-	-
	11/19/2019	5.27	17.52				-	-	-
	04/29/2020	4.90	17.90				-	-	-
	10/27/2020	5.53	17.26				-	-	-
MW-77R	12/01/2009	7.76	18.98	10.00	27.18	26.74	-	-	-
	03/25/2010	6.18	20.56				-	-	-
	05/27/2010	7.14	19.60				-	-	-
	09/09/2010	8.11	18.63				-	-	-
	12/08/2010	7.92	18.82				-	-	-
	03/17/2011	6.99	19.75				-	-	-
	06/09/2011	7.06	19.68				-	-	-
	09/08/2011	5.67	21.07				-	-	-
	11/03/2011	6.38	20.36				-	-	-
	02/23/2012	7.62	19.12				-	-	-
	05/31/2012	6.64	20.10				-	-	-
	08/22/2012	6.79	19.95				-	-	-
	12/10/2012	7.89	18.85				-	-	-
	03/13/2013	6.18	20.56				-	-	-
	06/11/2013	5.36	21.38				-	-	-
	09/04/2013	7.35	19.39				-	-	-
	12/03/2013	8.28	18.46				-	-	-
	02/25/2014	5.20	21.54				-	-	-
	06/12/2014	6.77	19.97				-	-	-
	09/18/2014	7.28	19.46				-	-	-
	12/04/2014	6.68	20.06				-	-	-
	06/23/2015	6.87	19.87				-	-	-
	10/21/2015	7.37	19.37				-	-	-
	04/11/2016	7.51	19.23				-	-	-
	10/24/2016	7.72	19.02				-	-	-
	04/19/2017	4.91	21.83				-	-	-
	10/30/2017	6.42	20.32				-	-	-
	04/23/2018	6.27	20.47				-	-	-
	11/29/2018	5.84	20.90				-	-	-
	04/22/2019	5.56	21.18				-	-	-
	11/19/2019	7.34	19.40				-	-	-
	04/29/2020	6.50	20.20				-	-	-
	10/27/2020	6.96	19.78				-	-	-
MW-80R	12/01/2009	5.18	20.54	10.00	26.26	25.72	-	-	-
	03/25/2010	4.02	21.70				-	-	-
	05/27/2010	5.07	20.65				-	-	-
	09/09/2010	5.57	20.15				-	-	-
	12/08/2010	4.71	21.01				-	-	-
	03/17/2011	3.99	21.73				-	-	-
	06/09/2011	4.84	20.88				-	-	-
	09/08/2011	4.22	21.50				-	-	-
	11/03/2011	3.74	21.98				-	-	-
	02/23/2012	4.74	20.98				-	-	-
	05/31/2012	4.66	21.06				-	-	-
	08/22/2012	4.30	21.42				-	-	-
	12/10/2012	5.32	20.40				-	-	-
	03/13/2013	4.46	21.26				-	-	-
	06/11/2013	4.01	21.71				-	-	-
	09/04/2013	5.81	19.91				-	-	-
	12/03/2013	5.47	20.25				-	-	-
	06/12/2014	4.87	20.85				-	-	-
	09/18/2014	5.32	20.40				-	-	-
	12/04/2014	4.62	21.10				-	-	-
	06/23/2015	4.89	20.83				-	-	-
	10/21/2015	5.33	20.39				-	-	-
	04/11/2016	5.11	20.61				-	-	-
	10/24/2016	5.58	20.14				-	-	-
	04/19/2017	4.72	21.00				-	-	-
	10/30/2017	5.41	20.31				-	-	-
	04/23/2018	4.28	21.44				-	-	-
	11/29/2018	2.80	22.90				-	-	-
	04/22/2019	3.81	21.91				-	-	-
	11/19/2019	5.52	20.20				-	-	-
	04/29/2020	7.70	18.00				-	-	-
	10/27/2020	5.48	20.24				-	-	-
MW-84RR	12/01/2009	3.56	10.14	10.00	14.15	13.70	-	-	-
	03/25/2010	6.18	7.52				-	-	-
	05/27/2010	3.36	10.34				-	-	-
	09/09/2010	3.66	10.04				-	-	-
	12/08/2010	3.28	10.42				-	-	-
	03/17/2011	1.65	12.05				-	-	-
	06/09/2011	3.24	10.46				-	-	-
	09/08/2011	0.31	13.39				-	-	-
	11/03/2011	1.49	12.21				-	-	-
	02/23/2012	3.20	10.50				-	-	-
	05/31/2012	2.74	10.96				-	-	-
	08/22/2012	2.83	10.87				-	-	-
	12/10/2012	0.09	13.61				-	-	-

Table 2a
Groundwater Gauging Data - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Measurement Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (feet NGVD29)	Screen Length (feet)	Ground Surface Elevation (feet NGVD29)	Top of Casing Elevation (feet NGVD29)	Depth to LNAPL (ft below TOC)	LNAPL Elevation (feet NGVD 29)	LNAPL Thickness (feet)
MW-84RR	03/13/2013	0.43	13.27	10.00	14.15	13.70	-	-	-
	06/11/2013	0.09	13.61				-	-	-
	09/04/2013	2.13	11.57				-	-	-
	12/03/2013	2.60	11.10				-	-	-
	06/12/2014	0.14	13.56				-	-	-
	09/18/2014	3.11	10.59				-	-	-
	12/04/2014	0.59	13.11				-	-	-
	06/23/2015	2.51	11.19				-	-	-
	10/21/2015	3.04	10.66				-	-	-
	04/11/2016	2.87	10.83				-	-	-
	10/24/2016	3.32	10.38				-	-	-
	04/19/2017	2.89	10.81				-	-	-
	10/30/2017	0.12	13.58				-	-	-
	04/23/2018	1.68	12.02				-	-	-
	11/29/2018	5.71	7.99				-	-	-
	04/22/2019	6.06	7.64				-	-	-
	11/19/2019	0.08	13.62				-	-	-
	04/29/2020	7.81	5.89				-	-	-
	10/27/2020	1.26	12.44				-	-	-
MW-86R	12/01/2009	6.03	12.79	10.00	19.30	18.82	-	-	-
	03/25/2010	4.99	13.83				-	-	-
	05/27/2010	5.04	13.78				-	-	-
	09/09/2010	6.67	12.15				-	-	-
	03/17/2011	4.26	14.56				-	-	-
	06/09/2011	5.81	13.01				-	-	-
	09/08/2011	5.57	13.25				-	-	-
	11/03/2011	5.80	13.02				-	-	-
	02/23/2012	5.20	13.62				-	-	-
	05/31/2012	5.41	13.41				-	-	-
	08/22/2012	5.46	13.36				-	-	-
	12/10/2012	5.69	13.13				-	-	-
	03/13/2013	4.55	14.27				-	-	-
	06/11/2013	3.82	15.00				-	-	-
	09/04/2013	5.41	13.41				-	-	-
	12/03/2013	5.80	13.02				-	-	-
	06/12/2014	4.75	14.07				-	-	-
	09/18/2014	5.78	13.04				-	-	-
	12/04/2014	4.86	13.96				-	-	-
	06/23/2015	5.43	13.39				-	-	-
	10/21/2015	6.06	12.76				-	-	-
	04/11/2016	4.39	14.43				-	-	-
	10/24/2016	6.06	12.76				-	-	-
	04/19/2017	5.18	13.64				-	-	-
	10/30/2017	0.54	18.28				-	-	-
	04/23/2018	4.67	14.15				-	-	-
	11/29/2018	4.65	14.17				-	-	-
	04/22/2019	4.53	14.29				-	-	-
	11/19/2019	4.90	13.90				-	-	-
	04/29/2020	4.84	13.98				-	-	-
	10/27/2020	3.54	15.28				-	-	-
MW-91R	04/11/2016	11.98	11.93	10.00	24.20	23.91	-	-	-
	10/24/2016	13.46	10.45				-	-	-
	04/19/2017	13.08	10.83				-	-	-
	10/30/2017	13.66	10.25				-	-	-
	04/23/2018	12.90	11.00				-	-	-
	11/29/2018	1.270	22.64				-	-	-
	04/22/2019	11.24	12.67				-	-	-
	11/19/2019	13.56	10.35				-	-	-
	04/29/2020	12.50	11.40				-	-	-
	10/27/2020	13.48	10.43				-	-	-
MW-92R	04/11/2016	12.97	11.85	10.00	25.10	24.82	-	-	-
	10/24/2016	12.98	11.84				-	-	-
	04/19/2017	13.72	11.10				-	-	-
	10/30/2017	12.32	12.50				-	-	-
	04/23/2018	13.84	10.98				-	-	-
	11/29/2018	1.38	23.44				-	-	-
	04/22/2019	10.72	14.10				-	-	-
	11/19/2019	12.45	12.37				-	-	-
	04/29/2020	13.40	11.40				-	-	-
	10/27/2020	14.00	11.00				-	-	-
MW-93R	04/11/2016	5.46	16.15	10.00	22.20	21.61	-	-	-
	10/24/2016	6.44	15.17				-	-	-
	04/19/2017	5.24	16.37				-	-	-
	10/30/2017	5.93	15.68				-	-	-
	04/23/2018	5.02	16.59				-	-	-
	11/29/2018	3.77	17.84				-	-	-
	04/22/2019	4.90	16.71				-	-	-
	11/19/2019	5.97	15.64				-	-	-
	04/29/2020	4.42	17.19				-	-	-
	10/27/2020	5.64	15.97				-	-	-

Table 2b
Groundwater Gauging Data - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Measurement Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (feet NGVD29)	Screen Length (feet)	Ground Surface Elevation (feet NGVD29)	Top of Casing Elevation (feet NGVD29)	Depth to LNAPL (ft below TOC)	LNAPL Elevation (feet NGVD29)	LNAPL Thickness (feet)
MW-11R	12/01/2009	7.49	27.83	15.00	35.69	35.32	-	-	-
	03/25/2010	6.14	29.18				-	-	-
	05/27/2010	6.43	28.89				-	-	-
	09/09/2010	10.18	25.14				-	-	-
	12/08/2010	7.74	27.58				-	-	-
	03/17/2011	3.56	31.76				-	-	-
	06/09/2011	6.69	28.63				-	-	-
	09/08/2011	7.31	28.01				-	-	-
	11/03/2011	7.55	27.77				-	-	-
	02/23/2012	6.42	28.90				-	-	-
	05/31/2012	5.94	29.38				-	-	-
	08/22/2012	8.29	27.03				-	-	-
	12/10/2012	7.79	27.53				-	-	-
	03/13/2013	5.64	29.68				-	-	-
	06/11/2013	5.94	29.38				-	-	-
	09/04/2013	8.64	26.68				-	-	-
	12/03/2013	8.54	26.78				-	-	-
	02/25/2014	6.07	29.25				-	-	-
	06/12/2014	6.31	29.01				-	-	-
	09/18/2014	9.23	26.09				-	-	-
	12/04/2014	7.22	28.10				-	-	-
	06/23/2015	4.65	30.67				-	-	-
	10/21/2015	9.61	25.71				-	-	-
	04/11/2016	6.42	28.90				-	-	-
	10/24/2016	10.66	24.66				-	-	-
	04/19/2017	6.41	28.91				-	-	-
	10/30/2017	8.14	27.18				-	-	-
	04/23/2018	5.68	29.64				-	-	-
	11/29/2018	5.81	29.51				-	-	-
	04/22/2019	5.63	29.69				-	-	-
	11/19/2019	7.86	27.46				-	-	-
	04/29/2020	5.75	29.57				-	-	-
	10/27/2020	8.68	26.64				-	-	-
MW-23R	12/01/2009	3.46	20.83	10.00	24.67	24.29	-	-	-
	03/25/2010	3.13	21.16				-	-	-
	05/27/2010	3.79	20.50				-	-	-
	09/09/2010	4.06	20.23				-	-	-
	12/08/2010	3.83	20.46				-	-	-
	03/17/2011	2.35	21.94				-	-	-
	06/09/2011	3.40	20.89				-	-	-
	09/08/2011	1.51	22.78				-	-	-
	11/03/2011	3.51	20.78				-	-	-
	02/23/2012	3.65	20.64				-	-	-
	05/31/2012	3.58	20.71				-	-	-
	08/22/2012	3.75	20.54				-	-	-
	12/10/2012	3.56	20.73				-	-	-
	03/13/2013	3.62	20.67				-	-	-
	06/11/2013	2.20	22.09				-	-	-
	09/04/2013	3.81	20.48				-	-	-
	12/03/2013	4.02	20.27				-	-	-
	02/25/2014	2.64	21.65				-	-	-
	06/12/2014	3.61	20.68				-	-	-
	09/18/2014	3.91	20.38				-	-	-
	12/04/2014	2.67	21.62				-	-	-
	06/23/2015	3.61	20.68				-	-	-
	10/21/2015	4.00	20.29				-	-	-
	04/11/2016	3.76	20.53				-	-	-
	10/24/2016	4.13	20.16				-	-	-
	04/19/2017	3.49	20.80				-	-	-
	10/30/2017	2.29	22.00				-	-	-
	04/23/2018	3.29	21.00				-	-	-
	11/29/2018	2.52	21.77				-	-	-
	04/22/2019	2.82	21.47				-	-	-
	11/19/2019	2.95	21.34				-	-	-
	04/29/2020	2.82	21.47				-	-	-
	10/27/2020	3.30	21.00				-	-	-
MW-300	12/01/2009	7.42	17.21	10.00	25.06	24.63	-	-	-
	03/25/2010	5.39	19.24				-	-	-
	05/27/2010	5.46	19.17				-	-	-
	03/17/2011	3.46	21.17				-	-	-
	04/11/2016	7.32	17.31				-	-	-
	10/24/2016	7.83	16.80				-	-	-
	04/19/2017	7.13	17.50				-	-	-
	10/30/2017	7.67	16.96				-	-	-
	04/23/2018	6.97	17.66				-	-	-
	11/29/2018	6.92	17.71				-	-	-
	04/22/2019	7.20	17.43				-	-	-
	11/19/2019	7.36	17.27				-	-	-
	04/29/2020	7.21	17.42				-	-	-
	10/27/2020	7.64	16.99				-	-	-
MW-301	12/01/2009	3.02	20.86	10.00	24.25	23.88	-	-	-
	03/25/2010	1.85	22.03				-	-	-
	05/27/2010	2.79	21.09				-	-	-
	09/09/2010	4.07	19.81				-	-	-
	12/08/2010	3.39	20.49				-	-	-
	03/17/2011	1.94	21.94				-	-	-
	06/09/2011	2.89	20.99				-	-	-
	09/08/2011	1.46	22.42				-	-	-
	11/03/2011	2.29	21.59				-	-	-
	02/23/2012	3.18	20.70				-	-	-
	05/31/2012	2.67	21.21				-	-	-
	08/22/2012	3.35	20.53				-	-	-
	12/10/2012	3.06	20.82				-	-	-
	03/13/2013	2.33	21.55				-	-	-
	06/11/2013	1.52	22.36				-	-	-
	09/04/2013	3.51	20.37				-	-	-
	12/03/2013	3.73	20.15				-	-	-
	02/25/2014	1.90	21.98				-	-	-
	06/12/2014	2.63	21.25				-	-	-
	09/18/2014	4.03	19.85				-	-	-
	12/04/2014	2.89	20.99				-	-	-
	06/23/2015	3.23	20.65				-	-	-
	10/21/2015	3.87	20.01				-	-	-
	04/11/2016	3.31	20.57				-	-	-
	10/24/2016	4.12	19.76				-	-	-
	04/19/2017	3.09	20.79				-	-	-
	10/30/2017	3.02	20.86				-	-	-

Table 2b
Groundwater Gauging Data - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Measurement Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (feet NGVD29)	Screen Length (feet)	Ground Surface Elevation (feet NGVD29)	Top of Casing Elevation (feet NGVD29)	Depth to LNAPL (ft below TOC)	LNAPL Elevation (feet NGVD29)	LNAPL Thickness (feet)
MW-301	04/23/2018	2.88	21.00	10.00	24.25	23.88	-	-	-
	11/29/2018	2.04	21.84				-	-	-
	04/22/2019	2.45	21.43				-	-	-
	11/19/2019	3.03	20.85				-	-	-
	04/29/2020	3.81	20.07				-	-	-
	10/27/2020	3.36	20.52				-	-	-
MW-302	12/01/2009	30.31	18.89	20.00	49.57	49.20	-	-	-
	03/25/2010	24.25	24.95				-	-	-
	05/27/2010	29.12	20.08				-	-	-
	09/09/2010	26.21	22.99				-	-	-
	12/08/2010	27.41	21.79				-	-	-
	03/17/2011	24.36	24.84				-	-	-
	06/09/2011	27.63	21.57				-	-	-
	09/08/2011	22.52	26.68				-	-	-
	11/03/2011	30.36	18.84				-	-	-
	02/23/2012	29.44	19.76				-	-	-
	05/31/2012	27.43	21.77				-	-	-
	08/22/2012	26.42	22.78				-	-	-
	12/10/2012	26.71	22.49				-	-	-
	03/13/2013	15.32	33.88				-	-	-
	06/11/2013	8.54	40.66				-	-	-
	09/04/2013	25.58	23.62				-	-	-
	12/03/2013	24.05	25.15				-	-	-
	06/12/2014	26.83	22.37				-	-	-
	09/18/2014	23.39	25.81				-	-	-
	12/04/2014	22.56	26.64				-	-	-
	06/23/2015	22.55	26.65				-	-	-
	10/21/2015	25.11	24.09				-	-	-
	04/11/2016	21.92	27.28				-	-	-
	10/24/2016	28.04	21.16				-	-	-
	04/19/2017	16.48	32.72				-	-	-
	10/30/2017	24.72	24.48				-	-	-
	04/23/2018	25.29	23.91				-	-	-
	11/29/2018	4.57	44.63				-	-	-
	11/19/2019	22.39	26.81				-	-	-
	04/29/2020	6.22	42.98				-	-	-
	10/27/2020	22.67	26.53				-	-	-
MW-303	12/01/2009	11.68	41.06	15.00	53.11	52.74	-	-	-
	03/25/2010	5.36	47.38				-	-	-
	05/27/2010	8.32	44.42				-	-	-
	09/09/2010	3.78	48.96				-	-	-
	12/08/2010	5.66	47.08				-	-	-
	06/09/2011	5.67	47.07				-	-	-
	09/08/2011	10.10	42.64				-	-	-
	11/03/2011	5.25	47.49				-	-	-
	02/23/2012	14.32	38.42				-	-	-
	05/31/2012	6.06	46.68				-	-	-
	08/22/2012	6.24	46.50				-	-	-
	12/10/2012	7.32	45.42				-	-	-
	03/13/2013	7.90	44.84				-	-	-
	06/11/2013	7.08	45.66				-	-	-
	09/04/2013	7.81	44.93				-	-	-
	12/03/2013	6.91	45.83				-	-	-
	02/25/2014	2.75	49.99				-	-	-
	06/12/2014	9.58	43.16				-	-	-
	09/18/2014	4.62	48.12				-	-	-
	12/04/2014	6.36	46.38				-	-	-
	06/23/2015	7.17	45.57				-	-	-
	10/21/2015	8.48	44.26				-	-	-
	04/11/2016	7.63	45.11				-	-	-
	10/24/2016	11.12	41.62				-	-	-
	04/19/2017	9.95	42.79				-	-	-
	10/30/2017	4.84	47.90				-	-	-
	04/23/2018	9.63	43.11				-	-	-
	11/29/2018	4.31	48.43				-	-	-
	04/22/2019	10.60	42.14				-	-	-
	11/19/2019	9.04	43.70				-	-	-
	04/29/2020	11.20	41.50				-	-	-
	10/27/2020	5.58	47.16				-	-	-
MW-304	12/01/2009	4.87	20.31	10.00	25.54	25.18	-	-	-
	03/25/2010	4.67	20.51				-	-	-
	05/27/2010	4.79	20.39				-	-	-
	09/09/2010	4.97	20.21				-	-	-
	12/08/2010	4.89	20.29				-	-	-
	03/17/2011	4.66	20.52				-	-	-
	06/09/2011	4.37	20.81				-	-	-
	09/08/2011	4.53	20.65				-	-	-
	11/03/2011	4.89	20.29				-	-	-
	02/23/2012	4.82	20.36				-	-	-
	05/31/2012	4.87	20.31				-	-	-
	08/22/2012	4.88	20.30				-	-	-
	12/10/2012	4.86	20.32				-	-	-
	03/13/2013	4.67	20.51				-	-	-
	06/11/2013	4.69	20.49				-	-	-
	09/04/2013	4.88	20.30				-	-	-
	12/03/2013	4.91	20.27				-	-	-
	02/25/2014	4.21	20.97				-	-	-
	06/12/2014	4.71	20.47				-	-	-
	09/18/2014	4.71	20.47				-	-	-
	12/04/2014	4.52	20.66				-	-	-
	06/23/2015	2.85	22.33				-	-	-
	10/21/2015	4.90	20.28				-	-	-
	04/11/2016	4.80	20.38				-	-	-
	10/24/2016	4.95	20.23				-	-	-
	04/19/2017	4.72	20.46				-	-	-
	10/30/2017	4.86	20.32				-	-	-
	04/23/2018	4.67	20.51				-	-	-
	11/29/2018	4.70	20.50				-	-	-
	04/22/2019	4.54	20.64				-	-	-
	11/19/2019	4.90	20.30				-	-	-
	04/29/2020	5.00	20.00				-	-	-
	10/27/2020	4.98	20.20				-	-	-
MW-40R	12/01/2009	7.18	39.02	15.00	46.61	46.20	-	-	-
	03/25/2010	7.00	39.20				-	-	-
	05/27/2010	6.58	39.62				-	-	-
	09/09/2010	6.31	39.89				-	-	-
	12/08/2010	6.94	39.26				-	-	-

Table 2b
Groundwater Gauging Data - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Measurement Date	Depth to Groundwater (ft below TOC)	Groundwater Elevation (feet NGVD29)	Screen Length (feet)	Ground Surface Elevation (feet NGVD29)	Top of Casing Elevation (feet NGVD29)	Depth to LNAPL (ft below TOC)	LNAPL Elevation (feet NGVD29)	LNAPL Thickness (feet)
MW-40R	03/17/2011	7.31	38.89	15.00	46.61	46.20	-	-	-
	06/09/2011	6.95	39.25				-	-	-
	09/08/2011	6.99	39.21				-	-	-
	11/03/2011	12.46	33.74				-	-	-
	02/23/2012	8.67	37.53				-	-	-
	05/31/2012	7.06	39.14				-	-	-
	08/22/2012	7.37	38.83				-	-	-
	12/10/2012	7.90	38.30				-	-	-
	03/13/2013	8.55	37.65				-	-	-
	06/11/2013	7.46	38.74				-	-	-
	09/04/2013	6.73	39.47				-	-	-
	12/03/2013	6.87	39.33				-	-	-
	02/25/2014	7.39	38.81				-	-	-
	06/12/2014	7.23	38.97				-	-	-
	09/18/2014	6.65	39.55				-	-	-
	12/04/2014	7.30	38.90				-	-	-
	06/23/2015	6.70	39.50				-	-	-
	10/21/2015	4.05	42.15				-	-	-
	04/11/2016	7.08	39.12				-	-	-
	10/24/2016	7.31	38.89				-	-	-
	04/19/2017	9.78	36.42				-	-	-
	10/30/2017	7.24	38.96				-	-	-
	04/23/2018	7.86	38.34				-	-	-
	11/29/2018	4.47	41.73				-	-	-
	04/22/2019	10.42	35.78				-	-	-
	11/19/2019	7.01	39.19				-	-	-
	04/29/2020	10.17	36.03				-	-	-
	10/27/2020	7.50	38.70				-	-	-

Table 3
Semi-Volatile Organic Compound Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-23R	MW-302	MW-302
	Field Sample ID	M23RA1X	M23RA2X-100507	M23RA3X	M23RA4X	M23RA6X	M23RA7X	M23RA8X	M23RA9X	M23RB1X	M23RB2X	M23RB3X	M23RB4X	M23RB5X	M23RB6X	M23RB7X	M23RB8X	M23RB9X	M23RC1	M23RC2X	M23RC3X	M23RC7	M23RC8X	M23RD3	M23RD6	M23RD8	D0124191	M23RD9	D1008201X	D0114211	M302A2X-100505	M302A3X
	Sample Date	11/04/2009	05/07/2010	10/12/2010	05/04/2011	11/08/2011	02/08/2012	04/19/2012	07/17/2012	10/18/2012	02/07/2013	05/15/2013	08/23/2013	10/23/2013	03/21/2014	05/09/2014	07/30/2014	10/21/2014	03/26/2015	05/21/2015	09/25/2015	07/12/2016	10/05/2016	07/11/2017	04/05/2018	11/15/2018	01/24/2019	01/24/2019	10/08/2020	01/14/2021	05/05/2010	10/12/2010
	SDG	1169567	RFS41	RFS73	RFT17	RFT84	RFU08	RFU45	RFV11	RFV80	RFX51	RFZ47	RFB97	CS032	CS075	CS096	CS133	CS173	CS213	CS240	CS290	CS425	CS462	CS579	CS667	CS759	CS787	CS787	410-16638-1	410-26408-1	RFS41	RFS73
Parameter Name/Units	NJDEP GWQS	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
2,4,5-Trichlorophenol	700	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	0.5UJ	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
2,4,6-Trichlorophenol	20	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	0.5UJ	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
2,4-Dichlorophenol	20	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	0.5UJ	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
2,4-Dimethylphenol	100	3U	3U	3UJ	3U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	3UJ	3U	3U	3.1UJ	3.5U	3UJ	30U
2,4-Dinitrophenol	40	22U	10U	10UJ	10U	10U	10U	11U	11U	10U	10U	10UJ	11UJ	11U	11U	11U	10U	12UJ	-	10UJ	10U	10U	11UJ	10UJ	10U	14UJ	14U	14U	15UJ	16U	10UJ	100U
2,4-Dinitrotoluene	NA	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1U	1UJ	1UJ	1U	1U	1U	1U	1UJ	1UJ	1U	1U	1U	1.1UJ	1U	1U	1U	1U	1U	1UJ	1.2U	1UJ	10U
2,6-Dinitrotoluene	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
2-Chloronaphthalene	600	2U	2U	2UJ	2U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4UJ	0.4UJ	0.4U	0.4U	0.4U	0.4U	0.5UJ	0.4UJ	0.4U	0.4U	0.4U	0.43UJ	0.4U	0.4U	0.4U	0.4U	0.4U	0.42UJ	0.47U	2UJ	20U
2-Chlorophenol (o-Chlorophenol)	40	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	0.5UJ	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
2-Methyl-Naphthalene	NA	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
2-Methylphenol (o-Cresol)	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	0.5UJ	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
2-Nitroaniline (o-Nitroaniline)	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	2U	2U	2U	2.1UJ	2.3U	1UJ	10U
2-Nitrophenol (o-Nitrophenol)	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	3UJ	3U	3U	3.1UJ	3.5U	1UJ	10U
3,3'-Dichlorobenzidine	30	2U	2U	2UJ	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	3U	3U	3U	3.1UJ	3.5U	2UJ	20U
3-Nitroaniline	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	3U	3U	3U	3.1UJ	3.5U	1UJ	10U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	NA	6U	5U	5UJ	5U	5U	5U	5U	6U	5U	5U	5UJ	5UJ	6U	5U	5U	5U	6UJ	-	5UJ	5U	5U	5.3UJ	5UJ	5U	8UJ	8U	8U	8.3UJ	9.4U	5UJ	50U
4-Bromophenylphenylether	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
4-Chloroaniline	30	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	2U	2U	2U	2.1UJ	2U	2U	4U	4U	4U	4.2UJ	4.7U	1UJ	10U
4-Chlorophenyl phenyl ether	NA	2U	2U	2UJ	2U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	2UJ	20U
4-Methylphenol (p-Cresol)	NA	2U	2U	2UJ	2U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	0.5UJ	0.5U	0.5U	0.52UJ	0.59U	2UJ	20U
4-Nitroaniline	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.9U	0.9U	0.9U	0.94UJ	1.1U	1UJ	10U
4-Nitrophenol	NA	11U	10U	10UJ	10U	10U	10U	11U	11U	10U	10U	10UJ	11UJ	11U	11U	11U	10U	12UJ	-	10UJ	10U	10U	11UJ	10UJ	10U	10UJ	10U	10U	10UJ	12U	10UJ	100U
Acenaphthene	400	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Acenaphthylene	NA	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Acetophenone	700	2U	2U	2UJ	2U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	4U	4U	4U	4.2UJ	4.7U	2UJ	20U
Anthracene	2000	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Atrazine	3	2U	2U	2UJ	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2.1UJ	2.3U	2UJ	20U
Benzaldehyde	NA	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1U	1UJ	1UJ	1U	1U	1U	1U	1UJ	1UJ	1U	1U	1U	1.1UJ	1U	1U	3U	3U	3U	3.1UJ	3.5U	1UJ	10U
Benzo(a)anthracene	0.1	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Benzo(a)pyrene	0.1	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Benzo(b)fluoranthene	0.2	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Benzo(g,h,i)perylene	NA	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Benzo(k)fluoranthene	0.5	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
bis(2-Chloroethoxy)methane	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
bis(2-Chloroethyl) ether	7	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
bis(2-chloroisopropyl) ether	3000	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
bis(2-Ethylhexyl)phthalate	3	2U	2U	2UJ	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	5U	5U	5U	5.2UJ	5.9U	2UJ	20U
Butylbenzylphthalate	100	2U	2U	2UJ	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2.1UJ	2.3U	2UJ	20U
Caprolactam	NA	6U	5U	5UJ	5U	5U	5U	5U	6U	5U	5U	5UJ	5UJ	6U	5U	5U	5U	6UJ	6UJ	5U	5U	5U	5.3UJ	5U	5U	5U	5U	5U	5.2UJ	5.9U	5UJ	50U
Carbazole	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
Chrysene	50	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Di-n-butylphthalate	700	2U	2U	2UJ	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2.1UJ	2.3U	2UJ	20U
Di-n-octylphthalate	100	2U	2U	2UJ	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	5U	5U	5U	5.2UJ	5.9U	2UJ	20U
Dibenz(a,h)anthracene	0.3	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Dibenzofuran	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
Diethylphthalate	6000	2U	2U	2UJ	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2.1UJ	2.3U	2UJ	20U
Dimethyl phthalate	NA	2U	2U	2UJ	2U	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2.1UJ	2.3U	2UJ	20U
Diphenyl (Biphenyl, Phenyl benzene)	400	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	3U	3U	3U	3.1UJ	3.5U	1UJ	10U
Fluoranthene	300	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Fluorene	300	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Hexachlorobenzene	0.02	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Hexachlorobutadiene	1	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
Hexachlorocyclopentadiene	40	6U	5U	5UJ	5U	5U	5U	5U	6U	5U	5U	5UJ	5UJ	6U	5U	5U	5U	6UJ	6UJ	5U	5U	5U	5.3UJ	5U	5U	5U	5U	5U	5.2UJ	5.9U	5UJ	50U
Hexachloroethane	7	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1U	1UJ	1UJ	1U	1U	1U	1U	1UJ	1UJ	1U	1U	1U	1.1UJ	1U	1U	1U	1U	1U	1UJ	1.2U	1UJ	10U
Indeno(1,2,3-cd)Pyrene	0.2	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Isophorone	40	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
N-Nitrosodi-n-propylamine	10	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.7U	0.7U	0.7U	0.73UJ	0.82U	1UJ	10U
N-Nitrosodiphenylamine (Diphenylamine)	10	2U	2U	2UJ	2U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.7U	0.7U	0.7U	0.73UJ	0.82U	2UJ	20U
Naphthalene	300	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1J	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Nitrobenzene	6	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	0.6UJ	0.5U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
p-Chloro-m-cresol	NA	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	0.5UJ	0.5U	0.5U	1.7UJ	1.9U	1UJ	10U
Pentachlorophenol	0.3	3U	3U	3UJ	3U	1U	1U	1U	1U	1U	1U	1UJ	1UJ	1U	1U	1U	1U	1UJ	-	1UJ	1U	1U	1.1UJ	1UJ	1U	1UJ	1U	1U	1UJ	1.2U	3UJ	30U
Phenanthrene	NA	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Phenol	2000	1U	1U	1UJ	1U	0.5U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5UJ	0.6U	0.5U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5U	0.5U	0.53UJ	0.5UJ	0.5U	0.5UJ	0.5U	0.5U	0.52UJ	0.59U	1UJ	10U
Pyrene	200	1U	1U	1UJ	1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.12U	1UJ	10U
Total TIC SVOCS	NA	-	-	-	-	-	33J	130J	170J	65J	52JB	140J	86J	21J	0U	0U	0U	160J	100JB	56J	68J	17JB	22J	80J	0U	37J	-	-	0UJ	-	-	-

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quantification limit
JB - Analyte concentration estimated and the analyte was found in the associated blank
- Indicates the parameter was not analyzed or was rejected

Table 3
Semi-Volatile Organic Compound Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302
	Field Sample ID	M302A4X	D0812111	M302A5X	M302A6X	M302A7X	M302A8X	M302A9X	M302B1X	M302B2X	M302B3X	M302B4X	M302B5X	M302B6X	M302B7X	M302B8X	M302B9X	M302C1X	M302C3X	M302C4X	M302C5X	M302C6X	M302C7X	M302C8X	M302C9X	M302D3X	M302D4X	M302D5X	M302D6X	M302D7X	M302D8X	M302D9X	M302E1X
	Sample Date	05/05/2011	08/12/2011	08/12/2011	11/08/2011	02/09/2012	04/18/2012	07/18/2012	10/23/2012	03/15/2013	05/16/2013	08/20/2013	10/22/2013	03/25/2014	05/13/2014	07/31/2014	10/22/2014	03/19/2015	09/29/2015	11/13/2015	02/25/2016	04/21/2016	07/06/2016	10/06/2016	01/05/2017	07/14/2017	10/04/2017	01/10/2018	04/04/2018	07/11/2018	11/19/2018	01/23/2019	04/18/2019
	SDG	RFT18	RFT58	RFT58	RFT84	RFU09	RFU44	RFV13	RFV90	RFY11	RFZ50	RFB95	CS031	CS076	CS097	CS134	CS175	CS210	CS291	CS315	CS363	CS389	CS424	CS463	CS495	CS580	CS610	CS629	CS666	CS711	CS760	CS786	CS842
Parameter Name/Units	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
2,4,5-Trichlorophenol	700	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
2,4,6-Trichlorophenol	20	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
2,4-Dichlorophenol	20	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
2,4-Dimethylphenol	100	3UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	-	0.5U	0.5U	0.5U	0.5U	3U	3UJ	3UJ	3U
2,4-Dinitrophenol	40	10UJ	10UJ	100U	11U	11U	10UJ	11U	10U	11UJ	11U	11U	11U	11U	12UJ	13U	12U	11U	11U	11U	10U	12U	10U	10UJ	-	10U	10U	10U	10U	14U	15UJ	14U	14U
2,4-Dinitrotoluene	NA	1UJ	1UJ	10U	1U	1U	1UJ	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1.0UJ	1U	1U	1U	1U	1U	1U	1UJ	1U	1U
2,6-Dinitrotoluene	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
2-Chloronaphthalene	600	2UJ	0.4UJ	4U	0.5U	0.5U	0.4UJ	0.4U	0.4U	0.4UJ	0.4U	0.4U	0.4U	0.4U	0.5U	0.5U	0.5U	0.4U	0.4U	0.4U	0.4U	0.5U	0.4U	0.42UJ	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4UJ	0.4U	0.4UJ
2-Chlorophenol (o-Chlorophenol)	40	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
2-Methyl-Naphthalene	NA	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
2-Methylphenol (o-Cresol)	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
2-Nitroaniline (o-Nitroaniline)	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	2U	2UJ	2U	2U
2-Nitrophenol (o-Nitrophenol)	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	-	0.5U	0.5U	0.5U	0.5U	3U	3UJ	3UJ	3U
3,3'-Dichlorobenzidine	30	2UJ	2UJ	20U	2U	2U	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2U	3U	2U	2UJ	2U	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	3U	3UJ	3U	3U
3-Nitroaniline	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	3U	3UJ	3U	3U
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	NA	5UJ	5UJ	50U	6U	6U	5UJ	5U	5U	6UJ	5U	6U	5U	6U	6U	6U	6U	5U	6U	5U	5U	6U	5U	5.2UJ	-	5U	5U	5U	5U	8U	8UJ	8U	8U
4-Bromophenylphenylether	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
4-Chloroaniline	30	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	2U	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	4U	4UJ	4U	4U
4-Chlorophenyl phenyl ether	NA	2UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5UJ	0.5U
4-Methylphenol (p-Cresol)	NA	2UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	3.1UJ	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
4-Nitroaniline	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.9U	1UJ	0.9UJ	0.9U
4-Nitrophenol	NA	10UJ	10UJ	100U	11U	11U	10UJ	11U	10U	11UJ	11U	11U	11U	11U	12U	13U	12U	11U	11U	11U	10U	12U	10U	10UJ	-	10U	10UJ	10UJ	10U	10U	11UJ	10U	10U
Acenaphthene	400	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Acenaphthylene	NA	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Acetophenone	700	2UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	4U	4UJ	4U	4U
Anthracene	2000	1UJ	0.1UJ	1U	0.1U	0.1U	0.1J	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Atrazine	3	2UJ	2UJ	20U	2U	2U	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2U	3U	2U	2U	2U	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2U	2UJ	2U	2U
Benzaldehyde	NA	1UJ	1UJ	10U	1U	1U	1UJ	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1.0UJ	1U	1U	1U	1U	1U	3U	3UJ	3U	3U
Benzo(a)anthracene	0.1	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Benzo(a)pyrene	0.1	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Benzo(b)fluoranthene	0.2	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Benzo(g,h,i)perylene	NA	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Benzo(k)fluoranthene	0.5	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
bis(2-Chloroethoxy)methane	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5UJ	0.5U
bis(2-Chloroethyl) ether	7	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
bis(2-chloroisopropyl) ether	3000	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
bis(2-Ethylhexyl)phthalate	3	2UJ	2UJ	20U	2U	2U	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2U	3U	2U	2UJ	2U	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	5U	5UJ	5U	5U
Butylbenzylphthalate	100	2UJ	2UJ	59	2U	2U	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2U	3U	2U	2UJ	2U	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2U	2UJ	2U	2U
Caprolactam	NA	5UJ	5UJ	50U	6U	6U	5UJ	5U	5U	6UJ	5U	6U	5U	6U	6U	6U	6U	5U	6U	5U	5U	6U	5U	5.2UJ	5U	5UJ	5U	5U	5U	5U	5UJ	5U	5U
Carbazole	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
Chrysene	50	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Di-n-butylphthalate	700	2UJ	2UJ	20U	2U	2U	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2U	3U	2U	2U	2U	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2U	2UJ	2U	2U
Di-n-octylphthalate	100	2UJ	2UJ	20U	2U	2U	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2U	3U	2U	2UJ	2U	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	5U	5UJ	5U	5U
Dibenz(a,h)anthracene	0.3	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Dibenzofuran	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
Diethylphthalate	6000	2UJ	2UJ	20U	2U	2U	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2U	3U	2U	2U	2U	2U	2U	2UJ	2U	2.1UJ	2U	2U	2U	2U	2U	2U	2UJ	2UJ	2U
Dimethyl phthalate	NA	2UJ	2UJ	20U	2U	2U	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2U	3U	2U	2U	2U	2U	2U	2UJ	2U	2.1UJ	2U	2U	2U	2U	2U	2U	2UJ	2U	2U
Diphenyl (Biphenyl, Phenyl benzene)	400	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	3U	3UJ	3U	3UJ
Fluoranthene	300	1UJ	0.1UJ	1U	0.1U	0.1U	0.1J	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Fluorene	300	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1UJ	0.1U
Hexachlorobenzene	0.02	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Hexachlorobutadiene	1	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
Hexachlorocyclopentadiene	40	5UJ	5UJ	50U	6U	6U	5UJ	5U	5U	6UJ	5U	6U	5U	6U	6U	6U	6U	5U	6U	5U	5U	6U	5U	5.2UJ	5U	5U	5UJ	5U	5U	5U	5UJ	5U	5UJ
Hexachloroethane	7	1UJ	1UJ	10U	1U	1U	1UJ	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1.0UJ	1U	1U	1U	1U	1U	1U	1UJ	1U	1U
Indeno(1,2,3-cd)Pyrene	0.2	1UJ	0.1UJ	1U	0.1J	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Isophorone	40	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5UJ	0.5U
N-Nitrosodi-n-propylamine	10	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.7U	0.7UJ	0.7U	0.7U
N-Nitrosodiphenylamine (Diphenylamine)	10	2UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.7U	0.7UJ	0.7U	0.7U
Naphthalene	300	1UJ	0.1UJ	1U	0.1U	0.1J	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1J	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.2J	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Nitrobenzene	6	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5UJ	0.5U
p-Chloro-m-cresol	NA	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5UJ
Pentachlorophenol	0.3	3UJ	1UJ	10U	1U	1U	1UJ	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1.0UJ	-	1U	1U	1U	1U	1U	1UJ	1U	1U
Phenanthrene	NA	1UJ	0.1UJ	1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Phenol	2000	1UJ	0.5UJ	5U	0.6U	0.6U	0.5UJ	0.5U	0.5U	0.6UJ	0.5U	0.6U	0.5U	0.6U	0.6U	0.6U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.52UJ	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U
Pyrene	200	1UJ	0.1UJ	1U	0.1U	0.1U	0.1J	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.10UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U
Total TIC SVOCS	NA	-	-	-	-	21J	39J	5J	32J	-	12J	18J	18J	0U	5J	33J	32J	46JB	120JB	26J	19J	120JB	11JB	21J	630JB	0U	4JB	37J	14J	12JB	34J	-	46J

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quantification limit
JB - Analyte concentration estimated and the analyte was found in the associated blank
- Indicates the parameter was not analyzed or was rejected

Table 3
Semi-Volatile Organic Compound Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303
	Field Sample ID	M302E2X	M302E3X	M302E4X	M302E5X	M302E6X	M302E7X	M303A1X	M303A2X-100505	M303A3X	M303A4X	M303A5X	M303A6X	M303A7X	M303A8X	M303A9X	M303B1X	M303B2X	M303B3X	M303B4X	M303B5X	M303B6X	M303B7X	M303B8X	M303B9X	M303C1X	M303C2X	M303C3X	M303C4X	M303C6X	M303C7X	M303C8X
	Sample Date	07/19/2019	10/18/2019	01/16/2020	04/21/2020	07/20/2020	10/06/2020	11/04/2009	05/05/2010	10/12/2010	05/05/2011	08/12/2011	11/08/2011	02/09/2012	04/18/2012	07/18/2012	10/23/2012	02/12/2013	05/16/2013	08/20/2013	10/22/2013	03/25/2014	05/13/2014	07/31/2014	10/22/2014	03/19/2015	05/22/2015	09/29/2015	11/12/2015	04/21/2016	07/12/2016	10/06/2016
	SDG	CS901	CS941	CS981	CT046	410-8203-1	410-16246-1	1169567	RFS41	RFS73	RFT18	RFT58	RFT84	RFU09	RFU44	RFV13	RFV90	RFX54	RFZ50	RFB95	CS031	CS076	CS097	CS134	CS175	CS210	CS241	CS291	CS313	CS389	CS425	CS463
Parameter Name/Units	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
2,4,5-Trichlorophenol	700	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	0.50UJ
2,4,6-Trichlorophenol	20	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	0.50UJ
2,4-Dichlorophenol	20	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	0.50UJ
2,4-Dimethylphenol	100	3UJ	3U	3U	3U	3UJ	3.2U	4U	3UJ	3UJ	3UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	0.50UJ
2,4-Dinitrophenol	40	15UJ	15U	15U	15U	14UJ	15U	23U	10UJ	10UJ	10UJ	10UJ	10UJ	11UJ	10UJ	11UJ	10U	10UJ	11UJ	11U	11U	12U	11UJ	12U	10U	10U	11UJ	-	10UJ	10UJ	10U	10UJ
2,4-Dinitrotoluene	NA	1UJ	1U	1U	1U	1UJ	1.1U	1U	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1U	1UJ	1UJ	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1UJ	1U	1.0UJ
2,6-Dinitrotoluene	NA	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
2-Chloronaphthalene	600	0.4UJ	0.4U	0.4U	0.4U	0.4UJ	0.43U	2U	2UJ	2UJ	2UJ	0.4UJ	0.4UJ	0.4UJ	0.4UJ	0.4UJ	0.4U	0.4UJ	0.5UJ	0.5U	0.4U	0.5U	0.4U	0.5U	0.4U	0.4U	0.5U	0.4U	0.4U	0.4UJ	0.4U	0.40UJ
2-Chlorophenol (o-Chlorophenol)	40	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	0.50UJ
2-Methyl-Naphthalene	NA	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
2-Methylphenol (o-Cresol)	NA	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	0.50UJ
2-Nitroaniline (o-Nitroaniline)	NA	2UJ	2U	2U	2U	2UJ	2.2U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5UJ	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
2-Nitrophenol (o-Nitrophenol)	NA	3UJ	3U	3U	3U	3UJ	3.2U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	0.50UJ
3,3'-Dichlorobenzidine	30	3UJ	3U	3U	3U	3UJ	3.2U	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2UJ	2UJ	2U	2U	2U	2U	2U	2U	2UJ	2U	2U	2U	2UJ	2U	2.0UJ
3-Nitroaniline	NA	3UJ	3U	3U	3U	3UJ	3.2U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	NA	9UJ	9U	8U	8U	8.1UJ	8.7U	6U	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	6UJ	5U	5UJ	6UJ	6U	5U	6U	5U	6U	5U	5U	6UJ	-	5UJ	5UJ	5U	5.0UJ
4-Bromophenylphenylether	NA	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
4-Chloroaniline	30	4UJ	4U	4U	4U	4UJ	4.3U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	2U	2U	2U	2UJ	2U	2.0UJ
4-Chlorophenyl phenyl ether	NA	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	2U	2UJ	2UJ	2UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
4-Methylphenol (p-Cresol)	NA	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	2U	2UJ	2UJ	2UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	3.0UJ
4-Nitroaniline	NA	1UJ	1U	0.9U	0.9U	0.91UJ	0.97U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
4-Nitrophenol	NA	11UJ	11U	10U	10U	10UJ	11U	12U	10UJ	10UJ	10UJ	10UJ	10UJ	11UJ	10UJ	11UJ	10U	10UJ	11UJ	11U	11U	12U	11U	12U	10U	10U	11UJ	-	10UJ	10UJ	10U	10UJ
Acenaphthene	400	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Acenaphthylene	NA	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Acetophenone	700	4UJ	4U	4U	4U	4UJ	4.3U	2U	2UJ	2UJ	2UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
Anthracene	2000	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Atrazine	3	2UJ	2U	2U	2U	2UJ	2.2U	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2UJ	2UJ	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2UJ	2U	2.0UJ
Benzaldehyde	NA	3UJ	3U	3U	3U	3UJ	3.2U	1U	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1U	1UJ	1UJ	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1UJ	1U	1.0UJ
Benzo(a)anthracene	0.1	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Benzo(a)pyrene	0.1	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Benzo(b)fluoranthene	0.2	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1J	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Benzo(g,h,i)perylene	NA	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1J	0.1UJ	0.1UJ	0.1UJ	0.1J	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Benzo(k)fluoranthene	0.5	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
bis(2-Chloroethoxy)methane	NA	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
bis(2-Chloroethyl) ether	7	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
bis(2-chloroisopropyl) ether	3000	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
bis(2-Ethylhexyl)phthalate	3	5UJ	5U	5U	5U	5.1UJ	5.4U	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2UJ	2UJ	2U	2U	2U	2U	2U	2U	2UJ	2U	2U	2U	2UJ	2U	2.0UJ
Butylbenzylphthalate	100	2UJ	2U	2UJ	2U	2UJ	2.2U	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2UJ	2UJ	2U	2U	2U	2U	2U	2U	2UJ	2U	2U	2U	2UJ	2U	2.0UJ
Caprolactam	NA	26J	5U	5UJ	5U	5.1UJ	5.4U	6U	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	6UJ	5U	5UJ	6UJ	6U	5U	6U	5U	6U	5U	5U	6U	5U	5U	5UJ	5U	5.0UJ
Carbazole	NA	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5UJ	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
Chrysene	50	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.2J	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Di-n-butylphthalate	700	2UJ	2U	2UJ	2U	2UJ	2.2U	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2UJ	2UJ	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2UJ	2U	2.0UJ
Di-n-octylphthalate	100	5UJ	5U	5U	5U	5.1UJ	5.4U	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	4J	2UJ	2UJ	2U	2U	2U	2U	2U	2U	2UJ	2U	2U	2U	2UJ	2U	2.0UJ
Dibenz(a,h)anthracene	0.3	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Dibenzofuran	NA	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
Diethylphthalate	6000	2UJ	2U	2UJ	2U	2UJ	2.2U	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2UJ	2UJ	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2UJ	2U	2.0UJ
Dimethyl phthalate	NA	2UJ	2U	2U	2U	2UJ	2.2U	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2UJ	2UJ	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2UJ	2U	2.0UJ
Diphenyl (Biphenyl, Phenyl benzene)	400	3UJ	3U	3U	3U	3UJ	3.2U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
Fluoranthene	300	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Fluorene	300	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Hexachlorobenzene	0.02	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Hexachlorobutadiene	1	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5UJ	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
Hexachlorocyclopentadiene	40	5UJ	5U	5U	5U	5.1UJ	5.4U	6U	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	5UJ	6UJ	5U	5UJ	6UJ	6U	5U	6U	5U	6U	5U	5U	6U	5U	5U	5UJ	5U	5.0UJ
Hexachloroethane	7	1UJ	1U	1U	1U	1UJ	1.1U	1U	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1U	1UJ	1UJ	1U	1U	1U	1U	1U	1UJ	1U	1U	1U	1U	1UJ	1U	1.0UJ
Indeno(1,2,3-cd)Pyrene	0.2	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Isophorone	40	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
N-Nitrosodi-n-propylamine	10	0.7UJ	0.8U	0.7U	0.7U	0.71UJ	0.76U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
N-Nitrosodiphenylamine (Diphenylamine)	10	0.7UJ	0.8U	0.7U	0.7U	0.71UJ	0.76U	2U	2UJ	2UJ	2UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
Naphthalene	300	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.8	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Nitrobenzene	6	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6U	0.5U	0.5U	0.5UJ	0.5U	0.50UJ
p-Chloro-m-cresol	NA	0.5UJ	0.5U	0.5U	2U	1.6UJ	1.7U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	0.50UJ
Pentachlorophenol	0.3	1UJ	1U	1U	1U	1UJ	1.1U	4U	3UJ	3UJ	3UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1U	1UJ	1UJ	1U	1U	1U	1U	1U	1U	1U	1UJ	-	1UJ	1UJ	1U	1.0UJ
Phenanthrene	NA	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1J	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Phenol	2000	0.5UJ	0.5U	0.5U	0.5U	0.51UJ	0.54U	1U	1UJ	1UJ	1UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.6UJ	0.5U	0.5UJ	0.6UJ	0.6U	0.5U	0.6U	0.5U	0.6U	0.5U	0.5U	0.6UJ	-	0.5UJ	0.5UJ	0.5U	0.50UJ
Pyrene	200	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.11U	1U	1UJ	1UJ	1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.10UJ
Total TIC SVOCS	NA	5J	28J	20J	4J	-	-	-	-	-	-	-	-	14J	57J	32J	47J	-	98J	60J	55J	43J	26J	43J	42J	13J	66J	430JB	130J	0UJ	20J	34J

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quantification limit
JB - Analyte concentration estimated and the analyte was found in the associated blank
- Indicates the parameter was not analyzed or was rejected

Table 3
Semi-Volatile Organic Compound Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-304	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R
	Field Sample ID	M303C9X	M303D2	M303D3X	M303D4X	M303D5X	M303D6X	M303D7X	M303D8X	M303D9X	M303E1X	M303E2X	M303E3X	M303E4X	D0414201X	M303E5X	M303E6X	M303E7X	M303E8X	M304A3X	M40RA1X	M40RA2X-100505	M40RA3X	M40RA4X	M40RA5X	D1027111	M40RA6X	M40RA7X	M40RA8X	M40RA9X	M40RB1X	M40RB2X
	Sample Date	01/05/2017	05/04/2017	07/14/2017	10/04/2017	01/10/2018	04/04/2018	07/11/2018	11/19/2018	01/23/2019	04/18/2019	07/18/2019	10/17/2019	01/13/2020	04/14/2020	04/14/2020	07/16/2020	10/01/2020	01/14/2021	08/18/2010	11/04/2009	05/05/2010	10/12/2010	05/05/2011	08/12/2011	10/27/2011	10/27/2011	02/09/2012	04/18/2012	07/18/2012	10/23/2012	02/12/2013
	SDG	CS495	CS554	CS580	CS610	CS629	CS666	CS711	CS761	CS786	CS842	CS900	CS939	CS978	CT041	CT041	410-7999-1	410-15683-1	410-26408-1	RFS64	1169567	RFS41	RFS73	RFT18	RFT58	RFT82	RFT82	RFU09	RFU44	RFV13	RFV90	RFX54
Parameter Name/Units	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
2,4,5-Trichlorophenol	700	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63UJ	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
2,4,6-Trichlorophenol	20	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63UJ	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
2,4-Dichlorophenol	20	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63UJ	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
2,4-Dimethylphenol	100	-	0.5U	0.5U	0.5U	0.5U	0.5U	3U	-	3UJ	3U	3U	3U	3U	3U	4U	3.2U	3.8UJ	3.2U	3U	3U	3UJ	3UJ	3U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
2,4-Dinitrophenol	40	-	10U	10U	10U	10U	10U	15U	-	14U	14U	14U	15U	15U	16U	18U	15U	18UJ	15U	10U	20U	10UJ	10UJ	10U	12UJ	11UJ	11UJ	11UJ	10UJ	10U	10U	10UJ
2,4-Dinitrotoluene	NA	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1.1U	1.3U	1.1U	1U	1U	1UJ	1UJ	1U	1UJ	1UJ	1UJ	1UJ	1UJ	1U	1U	1UJ
2,6-Dinitrotoluene	NA	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
2-Chloronaphthalene	600	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4UJ	0.4U	0.4U	0.4U	0.4U	0.5U	0.42U	0.51U	0.43U	2U	2U	2UJ	2UJ	2U	0.5UJ	0.4UJ	0.4UJ	0.4UJ	0.4UJ	0.4U	0.4U	0.4UJ
2-Chlorophenol (o-Chlorophenol)	40	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63UJ	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
2-Methyl-Naphthalene	NA	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
2-Methylphenol (o-Cresol)	NA	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63UJ	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
2-Nitroaniline (o-Nitroaniline)	NA	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	2U	2U	2U	2U	2U	2U	2U	2U	3U	2.1U	2.5U	2.1U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
2-Nitrophenol (o-Nitrophenol)	NA	-	0.5U	0.5U	0.5U	0.5U	0.5U	3U	-	3UJ	3U	3U	3U	3U	3U	4U	3.2U	3.8UJ	3.2U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
3,3'-Dichlorobenzidine	30	2U	2U	2U	2U	2U	2U	3U	3U	3U	3U	3U	3U	3U	3U	4U	3.2U	3.8U	3.2U	2U	2U	2UJ	2UJ	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2U	2UJ
3-Nitroaniline	NA	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	3U	3U	3U	3U	3U	3U	3U	3U	4U	3.2U	3.8U	3.2U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	NA	-	5U	5U	5U	5U	5U	8U	-	8U	8U	8U	8U	8U	9U	10U	8.4U	10UJ	8.6U	5U	5U	5UJ	5UJ	5U	6UJ	6UJ	5UJ	5UJ	5UJ	5U	5U	5UJ
4-Bromophenylphenylether	NA	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
4-Chloroaniline	30	2U	2U	2U	2U	2U	2U	4U	4U	4U	4U	4U	4U	4U	4U	5U	4.2U	5.1U	4.3U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
4-Chlorophenyl phenyl ether	NA	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	2U	2U	2UJ	2UJ	2U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
4-Methylphenol (p-Cresol)	NA	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63UJ	0.53U	2U	2U	2UJ	2UJ	2U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
4-Nitroaniline	NA	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.9U	1U	0.9UJ	0.9U	0.9U	0.9U	0.9U	1U	1U	0.95U	1.1U	0.96U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
4-Nitrophenol	NA	-	10U	10U	10UJ	10UJ	10U	10U	-	10U	10U	10U	10U	10U	11U	13U	11U	13UJ	11U	10U	10U	10UJ	10UJ	10U	12UJ	11UJ	11UJ	11UJ	10UJ	10U	10U	10UJ
Acenaphthene	400	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Acenaphthylene	NA	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Acetophenone	700	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	4U	4U	4U	4U	4U	4U	4U	4U	5U	4.2U	5.1U	4.3U	2U	2U	2UJ	2UJ	2U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
Anthracene	2000	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Atrazine	3	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	3U	2.1U	2.5U	2.1U	2U	2U	2UJ	2UJ	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2U	2UJ
Benzaldehyde	NA	1U	1U	1U	1U	1U	1U	3U	3U	3U	3U	3U	3U	3U	3U	4U	3.2U	3.8U	3.2U	1U	1U	1UJ	1UJ	1U	1UJ	1UJ	1UJ	1UJ	1UJ	1U	1U	1UJ
Benzo(a)anthracene	0.1	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Benzo(a)pyrene	0.1	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Benzo(b)fluoranthene	0.2	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1J	0.1U	0.1U	0.1UJ
Benzo(g,h,i)perylene	NA	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Benzo(k)fluoranthene	0.5	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
bis(2-Chloroethoxy)methane	NA	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
bis(2-Chloroethyl) ether	7	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
bis(2-chloroisopropyl) ether	3000	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
bis(2-Ethylhexyl)phthalate	3	2U	2U	2U	2U	2U	2U	5U	5U	5U	5U	5U	5U	5U	6U	6U	5.3U	6.3U	5.3U	2U	2U	2UJ	2UJ	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2U	2UJ
Butylbenzylphthalate	100	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	3U	2.1U	2.5U	2.1U	2U	2U	2UJ	2UJ	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2U	2UJ
Caprolactam	NA	5U	5UJ	5UJ	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U	6U	6U	5.3U	6.3U	5.3U	5U	5U	5UJ	5UJ	5U	6UJ	6UJ	5UJ	5UJ	5UJ	5U	5U	5UJ
Carbazole	NA	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
Chrysene	50	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.2J	0.1UJ
Di-n-butylphthalate	700	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	3U	2.1U	2.5U	2.1U	2U	2U	2UJ	2UJ	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2U	2UJ
Di-n-octylphthalate	100	2U	2U	2U	2U	2U	2U	5U	5U	5U	5U	5U	5U	5U	6U	6U	5.3U	6.3U	5.3U	2U	2U	2UJ	2UJ	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2U	2UJ
Dibenz(a,h)anthracene	0.3	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Dibenzofuran	NA	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
Diethylphthalate	6000	2U	2U	2U	2U	2U	2U	2U	2U	2UJ	2U	2U	2U	2U	2U	3U	2.1U	2.5U	2.1U	2U	2U	2UJ	2UJ	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2U	2UJ
Dimethyl phthalate	NA	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	2U	3U	2.1U	2.5U	2.1U	2U	2U	2UJ	2UJ	2U	2UJ	2UJ	2UJ	2UJ	2UJ	2U	2U	2UJ
Diphenyl (Biphenyl, Phenyl benzene)	400	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	3U	3U	3U	3UJ	3U	3U	3U	3U	4U	3.2U	3.8U	3.2U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
Fluoranthene	300	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Fluorene	300	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Hexachlorobenzene	0.02	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Hexachlorobutadiene	1	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
Hexachlorocyclopentadiene	40	5U	5U	5U	5UJ	5U	5U	5U	5U	5U	5UJ	5U	5U	5U	6U	6U	5.3UJ	6.3U	5.3U	5U	5U	5UJ	5UJ	5U	6UJ	6UJ	5UJ	5UJ	5UJ	5U	5U	5UJ
Hexachloroethane	7	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1.1U	1.3U	1.1U	1U	1U	1UJ	1UJ	1U	1UJ	1UJ	1UJ	1UJ	1UJ	1U	1U	1UJ
Indeno(1,2,3-cd)Pyrene	0.2	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Isophorone	40	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
N-Nitrosodi-n-propylamine	10	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.7U	0.8U	0.7U	0.7U	0.7U	0.7U	0.7U	0.8U	0.9U	0.74U	0.88U	0.75U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
N-Nitrosodiphenylamine (Diphenylamine)	10	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.7U	0.8U	0.7U	0.7U	0.7U	0.7U	0.7U	0.8U	0.9U	0.74UJ	0.88U	0.75U	2U	2U	2UJ	2UJ	2U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
Naphthalene	300	0.1U	0.1U	0.1U	1	0.1U	0.2J	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1J	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Nitrobenzene	6	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63U	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
p-Chloro-m-cresol	NA	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	0.5U	0.5UJ	0.5U	0.5U	0.5U	2U	2U	1.7U	2UJ	1.7U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
Pentachlorophenol	0.3	-	1U	1U	1U	1U	1U	1U	-	1U	1U	1U	1U	1U	1U	1U	1.1U	1.3UJ	1.1U	3U	3U	3UJ	3UJ	3U	1UJ	1UJ	1UJ	1UJ	1UJ	1U	1U	1UJ
Phenanthrene	NA	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1J	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Phenol	2000	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	-	0.5U	0.5U	0.5U	0.5U	0.5U	0.6U	0.6U	0.53U	0.63UJ	0.53U	1U	1U	1UJ	1UJ	1U	0.6UJ	0.6UJ	0.5UJ	0.5UJ	0.5UJ	0.5U	0.5U	0.5UJ
Pyrene	200	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.11U	0.13U	0.11U	1U	1U	1UJ	1UJ	1U	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ
Total TIC SVOCS	NA	120JB	-	31J	51J	76JB	16J	33J	300J	-	9J	12J	22J	22J	0U	0U	-	-	-	-	-	-	-	-	-	-	-	14J	63J	5J	0	-

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quantification limit
JB - Analyte concentration estimated and the analyte was found in the associated blank
- Indicates the parameter was not analyzed or was rejected

Table 3
Semi-Volatile Organic Compound Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R	MW-40R
	Field Sample ID	M40RB3X	M40RB4X	M40RB5X	M40RB6X	M40RB7X	M40RB8X	M40RB9X	M40RC1X	M40RC2X	M40RC3X	M40RC7X	M40RC8X	M40RC9	M40RD4	M40RD5	M40RD6	M40RD7	M40RE1	M40RE3X	M40RE7X
	Sample Date	05/16/2013	08/20/2013	10/22/2013	03/25/2014	05/13/2014	07/31/2014	10/22/2014	03/19/2015	05/22/2015	09/29/2015	07/06/2016	10/06/2016	01/05/2017	08/30/2017	10/04/2017	01/10/2018	04/04/2018	01/25/2019	07/19/2019	07/21/2020
	SDG	RFZ50	RFB95	CS031	CS076	CS097	CS134	CS175	CS210	CS241	CS291	CS424	CS463	CS495	CS596	CS610	CS629	CS666	CS788	CS901	410-8302-1
Parameter Name/Units	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
2,4,5-Trichlorophenol	700	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
2,4,6-Trichlorophenol	20	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
2,4-Dichlorophenol	20	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
2,4-Dimethylphenol	100	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	3UJ	3U	3.2UJ
2,4-Dinitrophenol	40	11UJ	10U	11UJ	11UJ	11UJ	11U	11UJ	11U	-	-	10U	-	-	10U	10U	10U	10U	14UJ	13U	15UJ
2,4-Dinitrotoluene	NA	1UJ	1U	1UJ	1UJ	1U	1U	1UJ	1U	1U	1U	1U	1.1UJ	1U	1U	1U	1U	1U	1UJ	0.9U	1.1UJ
2,6-Dinitrotoluene	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
2-Chloronaphthalene	600	0.4UJ	0.4U	0.4UJ	0.4UJ	0.5U	0.4U	0.4UJ	0.4U	0.4U	0.4U	0.4U	0.42UJ	0.4U	0.4U	0.4U	0.4U	0.4U	0.4UJ	0.4U	0.43UJ
2-Chlorophenol (o-Chlorophenol)	40	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
2-Methyl-Naphthalene	NA	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
2-Methylphenol (o-Cresol)	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
2-Nitroaniline (o-Nitroaniline)	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	2UJ	2U	2.1UJ
2-Nitrophenol (o-Nitrophenol)	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	3UJ	3U	3.2UJ
3,3'-Dichlorobenzidine	30	2UJ	2U	2UJ	2UJ	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	3UJ	3U	3.2UJ
3-Nitroaniline	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	3UJ	3U	3.2UJ
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	NA	5UJ	5U	5UJ	5UJ	6U	6U	6UJ	5U	-	-	5U	-	-	5U	5U	5U	5U	8UJ	7U	8.5UJ
4-Bromophenylphenylether	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
4-Chloroaniline	30	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	4UJ	4U	4.3UJ
4-Chlorophenyl phenyl ether	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
4-Methylphenol (p-Cresol)	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
4-Nitroaniline	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.9UJ	0.8U	0.96UJ
4-Nitrophenol	NA	11UJ	10U	11UJ	11UJ	11U	11U	11UJ	11U	-	-	10U	-	-	10U	10UJ	10U	10U	10UJ	9U	11UJ
Acenaphthene	400	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Acenaphthylene	NA	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Acetophenone	700	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	4UJ	4U	4.3UJ
Anthracene	2000	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Atrazine	3	2UJ	2U	2UJ	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2UJ	2U	2.1UJ
Benzaldehyde	NA	1UJ	1U	1UJ	1UJ	1U	1U	1UJ	1U	1U	1U	1U	1.1UJ	1U	1U	1U	1U	1U	3UJ	3U	3.2UJ
Benzo(a)anthracene	0.1	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Benzo(a)pyrene	0.1	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Benzo(b)fluoranthene	0.2	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.13J
Benzo(g,h,i)perylene	NA	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Benzo(k)fluoranthene	0.5	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11J
bis(2-Chloroethoxy)methane	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
bis(2-Chloroethyl) ether	7	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
bis(2-chloroisopropyl) ether	3000	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
bis(2-Ethylhexyl)phthalate	3	2UJ	2U	2UJ	2UJ	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	5UJ	5U	5.3UJ
Butylbenzylphthalate	100	2UJ	2U	2UJ	2UJ	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2UJ	2U	2.1UJ
Caprolactam	NA	5UJ	5U	5UJ	5UJ	6U	6U	6UJ	5U	6U	5U	5U	5.3UJ	5U	5U	5U	5U	5U	5UJ	5U	5.3UJ
Carbazole	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
Chrysene	50	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Di-n-butylphthalate	700	2UJ	2U	2UJ	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2UJ	2U	2.1UJ
Di-n-octylphthalate	100	2UJ	2U	2UJ	2UJ	2U	2U	2UJ	2UJ	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	5UJ	5U	5.3UJ
Dibenz(a,h)anthracene	0.3	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.16J
Dibenzofuran	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
Diethylphthalate	6000	2UJ	2U	2UJ	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2UJ	2U	2.1UJ
Dimethyl phthalate	NA	2UJ	2U	2UJ	2UJ	2U	2U	2UJ	2U	2U	2U	2U	2.1UJ	2U	2U	2U	2U	2U	2UJ	2U	2.1UJ
Diphenyl (Biphenyl, Phenyl benzene)	400	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	3UJ	3U	3.2UJ
Fluoranthene	300	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Fluorene	300	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Hexachlorobenzene	0.02	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Hexachlorobutadiene	1	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
Hexachlorocyclopentadiene	40	5UJ	5U	5UJ	5UJ	6U	6U	6UJ	5U	6U	5U	5U	5.3UJ	5U	5U	5UJ	5U	5U	5UJ	5U	5.3UJ
Hexachloroethane	7	1UJ	1U	1UJ	1UJ	1U	1U	1UJ	1U	1U	1U	1U	1.1UJ	1U	1U	1U	1U	1U	1UJ	0.9U	1.1UJ
Indeno(1,2,3-cd)Pyrene	0.2	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Isophorone	40	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
N-Nitrosodi-n-propylamine	10	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.7UJ	0.7U	0.74UJ
N-Nitrosodiphenylamine (Diphenylamine)	10	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.7UJ	0.7U	0.74UJ
Naphthalene	300	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Nitrobenzene	6	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	0.6U	0.5U	0.5U	0.53UJ	0.5U	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
p-Chloro-m-cresol	NA	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	1.7UJ
Pentachlorophenol	0.3	1UJ	1U	1UJ	1UJ	1U	1U	1UJ	1U	-	-	1U	-	-	1U	1U	1U	1U	1UJ	0.9U	1.1UJ
Phenanthrene	NA	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1U	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Phenol	2000	0.5UJ	0.5U	0.5UJ	0.5UJ	0.6U	0.6U	0.6UJ	0.5U	-	-	0.5U	-	-	0.5U	0.5U	0.5U	0.5U	0.5UJ	0.5U	0.53UJ
Pyrene	200	0.1UJ	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1UJ	0.1UJ	0.1U	0.1U	0.1U	0.11UJ	0.1U	0.1U	0.1U	0.1U	0.1U	0.1UJ	0.09U	0.11UJ
Total TIC SVOCS	NA	38J	0U	-	5J	0U	32J	-	28JB	48J	51J	8JB	21J	54JB	280J	85J	4JB	4JB	-	5J	-

Notes:
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Table 4a
TAL Metals Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R
		Field Sample ID	M76RA6	M76RA7	M76RA8	M76RA9	M76RB1	M76RB2	M76RB3	M76RB4	M76RB5	M76RB6	M76RB7	M76RB8	M76RB9	D1024132	M76RC1	M76RC2	M76RC3	M76RC4	M76RC5	M76RC6	M76RC7	M76RC8	M76RC9	M076RD1	M076RD2	M076RD2	M76RD3	M76RD4
		Sample Date	08/03/2010	11/01/2010	03/14/2011	05/03/2011	08/15/2011	10/31/2011	02/07/2012	04/17/2012	07/19/2012	11/14/2012	02/13/2013	05/13/2013	08/21/2013	10/24/2013	10/24/2013	03/21/2014	05/07/2014	07/28/2014	10/15/2014	03/16/2015	05/19/2015	09/22/2015	11/09/2015	01/21/2016	04/18/2016	04/18/2016	10/10/2016	01/03/2017
		SDG	RFS62	RFS77	RFS98	RFT16	RFT59	RFT83	RFU07	RFU43	RFV14	RFX06	RFX60	RFZ41	RFB96	CS033	CS033	CS075	CS095	CS132	CS172	CS209	CS239	CS289	CS311	CS346	CS387	CS421	CS466	CS494
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	2.0U	2.0U	2.0U	2.0U	0.77J	0.53J	0.27U	3.8J	0.36U	0.36U	1.7J	0.53J	0.76U	0.76U	0.76U	0.76U	0.76U	0.33U	0.33U	3.2J	0.68J	0.30U	0.30U	0.64U	0.64U	0.49U	0.49U	0.49U
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	19.1	31.2	169	206	60.7	93.7	70.9	65.8	50.2	26.7	17.2	133	6.8	1.3U	9.9	18.0	79.1	8.5	5.7	116	43.4	76.0	5.3	7.7	76.3	11.8	4.3J	6.3
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**2350**	**3670**	205	266	**1250**	**480**	**1130**	**8050**	**1230**	**1140**	**15800**	60.5J	**2230**	**5200**	**1480**	**3580**	**1110**	**1430**	**1280**	**29600**	49.0J	**7800**	**1070**	**908**	**1840**	**2330**	**1200**	**929**
Iron	Y	300	**1660**	**2350**	114J	52.2U	**861**	90.0J	**600**	**6250**	**616**	162J	**8140**	33.3U	**2010**	**5010**	**1160**	**3250**	**790**	**1320**	**1090**	**4250**	33.4U	**5460**	**783**	214U	**2140**	**2510**	**952**	**642**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	4.3J	10.5	68.8	89.0	23.7	45.9	34.8	19.4	33.3	13.1	7.9J	94.1	3.6J	1.5U	2.4J	9.4J	44.2	4.9J	1.7J	33.3	68.4	**3220**	15.7J	11.9	47.3	4.0J	6.3J	17.2
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	**307000**	**196000**	**77400**	**69000**	**287000**	**151000**	**299000**	**380000**	**152000**	**164000**	**708000**	**54400**	**286000**	**323000**	**171000**	**856000**	**312000**	**352000**	**219000**	**1750000**	**57300**	**424000**	**369000**	**226000**	**130000**	**375000**	**241000**	**166000**
Thallium	N	2	14.0U	14.0U	14.0U	14.0U	4.2U	4.2U	4.2U	4.2U	5.7U	5.7U	0.15U	0.45J	0.15U	0.15U	0.15U	0.15U	0.15J	0.15U	0.15U	0.36J	0.20J	0.15U	0.15U	0.15U	0.15U	0.16U	0.16U	0.16U
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	19.7J	37.7	204	257	60.9	121	93.9	140	65.2	41.0	39.3	228	15.2J	2.0U	7.4J	15.9J	111	10.2J	7.1U	145	182	9.4J	21.9	58.2	120	6.7J	11.4J	67.1

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Table 4a
TAL Metals Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R
		Field Sample ID	M076RD5	M076RD6	M076RD7	M076RD8	D0402181	M076RD9	M076RE1	M0076RE2	M076RE3	M076RE4	M076RE5	M076RE6	M076RE7	M076RE8	M076RE9	M076RF1	M076RF2	M77RA1	M77RA2-100506	D0720101-100720	M77RA3-100720	M77RA4	M77RA5	M77RA6	M77RA7	M77RA8	M77RA9
		Sample Date	04/11/2017	07/05/2017	10/02/2017	01/16/2018	04/02/2018	04/02/2018	07/02/2018	11/08/2018	01/15/2019	04/11/2019	07/11/2019	10/06/2019	01/15/2020	04/10/2020	07/15/2020	10/02/2020	01/19/2021	11/03/2009	05/06/2010	07/20/2010	07/20/2010	11/01/2010	03/14/2011	05/02/2011	08/15/2011	10/31/2011	02/06/2012
		SDG	CS541	CS577	CS609	CS633	CS665	CS665	CS707	CS754	CS783	CS837	CS895	CS935	CS980	CT040	410-7833-1	410-15915-1	410-26896-1	1169567	RFS41	RFS56	RFS56	RFS77	RFS98	RFT16	RFT59	RFT83	RFU07
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	0.49UJ	1.8U	1.8U	1.8U	1.8U	1.8U	1.0U	1.0U	1U	1UJ	1U	1U	1U	1U	1U	1U	1U	2.0U	2.0U	**5.9**	**6.1**	2.0U	2.0U	2.0U	0.36J	0.27U	0.27U
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	227000	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	5.2	3.8J	10.3	1.7U	10.9	9.6	2.1J	2.4J	3.1UJ	37.5	3.5UJ	4.5J	7.9	14.3	4.2J	13	8.8	-	2.1U	118	112	2.3U	2.3U	2.3U	0.80J	1.0J	0.62U
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	221	**871**	**2670**	**637**	146J	160J	40.0U K4	**663**	**1110**	**2790**	**1700**	**1520**	**1420**	**1930**	**1200**	-	**1100**	**8640**	**6640**	**160000**	**141000**	**10300**	**7040**	**4730**	**4530**	**5620**	**5120**
Iron	Y	300	74.7U	**469**	**2230**	295	123J	103J	40.0U K4	**332**	**3400**	**695**	**549**	**1170**	**1170**	**1510**	**1200**	**1600**	**1100**	**8250**	**6240**	**7930**	**7970**	**8950**	**7010**	**4250**	**4110**	**4610**	**5140**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	33.0	7.3J	4.0U	11.9	20.9	21.4	29.2	6.7J	6.3J	18.1	3.1U	2.6J	2.3J	4.7J	3J	2.1U	2.9J	1.8U	1.8U	**150**	**142**	3.0U	3.0U	3.0U	0.95U	0.95U	0.95U
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	**110000**	**181000**	**263000**	**291000**	**194000**	**192000**	43900	**189000**	**89900**	**361000**	**221000**	-	**187000**	**180000**	**270000**	**140000**	**91000**	**133000**	**196000**	**402000**	**423000**	**138000**	**364000**	**198000**	**188000**	**115000**	**148000**
Thallium	N	2	0.16U	0.12U	0.12U	0.12U	0.12U	0.12U	0.11U	0.11U	0.11U	0.11U	0.11U	0.13U	0.13U	0.13U	0.13U	0.15UJ	0.13U	14.0U	14.0U	14.0U	14.0U	14.0U	14.0U	14.0U	4.2U	4.2U	4.2U
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	73.9	14.6J	6.5U	28.5	52.1	54.4	54.5	16.7J	20.2	58.1	4.8UJ	7.1J	3.7U	3.7U	3.7U	3.7U	10J	8.1U	8.1U	1240	1220	10.1J	8.1U	8.1U	3.2U	9.6J	3.2U

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Table 4a
TAL Metals Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R
		Field Sample ID	D0213131	M77RB1	M77RB2	M77RB3	M77RB4	M77RB5	M77RB6	D1024131	M77RB7	M77RB8	D0507141	M77RB9	M77RC1	M77RC2	M77RC3	M77RC4	M77RC5	M77RC8	M77RD1	M80RA1	M80RA2-100506	M80RA3-100720	M80RA4	M80RA5	M80RA6	M80RA7	M80RA8	M80RA9
		Sample Date	02/13/2012	04/16/2012	07/19/2012	11/14/2012	02/13/2013	05/13/2013	08/21/2013	10/24/2013	10/24/2013	03/21/2014	05/07/2014	05/07/2014	07/28/2014	10/15/2014	03/25/2015	05/19/2015	09/22/2015	04/18/2016	10/10/2016	11/02/2009	05/06/2010	07/20/2010	11/01/2010	03/15/2011	05/02/2011	08/15/2011	10/31/2011	02/06/2012
		SDG	RFX60	RFU43	RFV14	RFX06	RFX60	RFZ41	RFB96	CS033	CS033	CS075	CS095	CS095	CS132	CS172	CS213	CS239	CS289	CS387	CS466	1169308	RFS41	RFS56	RFS77	RFS98	RFT16	RFT59	RFT83	RFU07
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	2.1J	0.27U	0.36U	0.36U	1.9J	0.36U	0.87J	0.76U	0.76U	0.76U	0.76U	0.76U	0.33U	0.33U	0.45J	0.33U	0.30U	0.64U	0.49U	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	0.66U	0.62U	0.66U	0.66U	0.66U	0.66U	1.3U	12.6	1.3U	2.2J	1.3U	1.3U	1.0U	1.0U	1.0U	1.3J	0.90U	0.90U	1.9U	-	-	-	-	-	-	-	-	-
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**6720**	**7910**	**3560**	**4520**	**7040**	**6040**	**4930**	**1460**	**5130**	**8030**	**5640**	**5280**	**3960**	**4030**	**8620**	**11100**	**7060**	**9610**	**7370**	197J	**757**	**1350**	**8940**	**810**	172J	205	255	73.4J
Iron	Y	300	**7180**	**7720**	**3420**	**4590**	**7080**	**5740**	**4810**	**1170**	**5060**	**7710**	**5180**	**5060**	**3980**	**3910**	**6100**	**11200**	**5240**	**9300**	**5990**	52.2U	52.2U	**1020**	**7770**	52.2U	77.9J	59.9J	130J	23.7J
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	1.1U	0.95U	1.1U	1.1U	1.1U	1.1U	1.5U	4.1J	1.5U	5.2J	1.5U	1.5U	1.6U	1.6U	1.6U	1.6U	1.3U	2.5U	2.8U	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	**673000**	**493000**	**199000**	**305000**	**668000**	**363000**	**191000**	**172000**	**328000**	**243000**	**234000**	**231000**	**199000**	**247000**	**113000**	**384000**	**188000**	**305000**	**118000**	-	-	-	-	-	-	-	-	-
Thallium	N	2	0.15U	4.2U	5.7U	5.7U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.16U	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	2.9J	3.2U	4.2J	2.0U	2.0J	2.0U	3.1J	12.0J	2.0U	90.7	28.3	24.4	11.7J	21.3J	50.6	12.5U	16.5J	11.1J	11.9J	-	-	-	-	-	-	-	-	-

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Table 4a
TAL Metals Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR
		Field Sample ID	M80RB1	M80RB2	M80RB3	M80RB4	M80RB5	M80RB6	M80RB7	M80RB8	M80RB9	M80RC1	M80RC2	M80RC3	M80RC4	D0924151	M80RC5	M80RC8	M80RD1	M80RD2	M80RD4	M80RD7	M80RE4	M84RRA1	M84RRA2-100504	M84RRA3-100720	M84RRA4	M84RRA5	M84RRA6
		Sample Date	04/16/2012	07/19/2012	10/24/2012	02/06/2013	05/14/2013	08/22/2013	10/22/2013	03/20/2014	05/08/2014	07/29/2014	10/20/2014	03/25/2015	05/20/2015	09/24/2015	09/24/2015	04/21/2016	10/04/2016	01/05/2017	07/11/2017	04/04/2018	10/14/2019	11/02/2009	05/04/2010	07/20/2010	11/01/2010	03/14/2011	05/02/2011
		SDG	RFU43	RFV14	RFV96	RFX51	RFZ47	RFB97	CS032	CS075	CS096	CS133	CS173	CS213	CS240	CS290	CS290	CS390	CS462	CS496	CS579	CS667	CS937	1169308	RFS41	RFS56	RFS77	RFS98	RFT16
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.0U	2.0U	2.0U	2.0U	2.0U	2.0J
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1U	2.1U	16.2	13.0	8.0	116
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	68.0J	**1210**	**15000**	33.3U	55.2J	231	**487**	125J	61.4J	166J	**3040**	56.5J	194J	**2360**	**2280**	51.1UJ	244	211	163J	89.5J	223	**3470**	**5630**	**10100**	**1670**	153J	**1880**
Iron	Y	300	34.9J	**759**	**16000**	33.3U	33.3U	173J	**526**	43.0U	43.0U	116J	**2880**	33.4U	61.6J	**1930**	**2020**	33.3U	220	74.7U	80.5U	80.5U	198J	52.2U	52.2U	**6020**	71.3J	52.2U	**474**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3J	3.0J	4.6J	85.0	38.3	**109**
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34100	23500	**58800**	44000	17800	27800
Thallium	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.0U	14.0U	14.0U	14.0U	14.0U	14.0U
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.5	43.5	18.9J	580	340	435

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Table 4a
TAL Metals Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR
		Field Sample ID	M84RRA7	M84RRA8	M84RRA9	M84RRB1	M84RRB2	M84RRB3	M84RRB4	M84RRB5	M84RRB6	M84RRB7	M84RRB8	M84RRB9	M84RRC1	M84RRC2	M84RRC3	M84RRC4	M84RRC5	M84RRC6	M84RRC7	M84RRC8	M84RRC9	D1003161	M84RRD1	M84RRD2	M84RRD3	M84RRD4	M84RRD5	M84RRD6	M84RRD7
		Sample Date	08/09/2011	10/31/2011	02/06/2012	04/16/2012	07/23/2012	11/14/2012	02/13/2013	05/13/2013	08/21/2013	10/24/2013	03/19/2014	05/07/2014	07/28/2014	10/15/2014	03/16/2015	05/19/2015	09/22/2015	11/05/2015	01/20/2016	04/18/2016	06/27/2016	10/03/2016	10/03/2016	01/03/2017	04/10/2017	07/05/2017	10/02/2017	01/16/2018	04/02/2018
		SDG	RFT54	RFT83	RFU07	RFU43	RFV15	RFX06	RFX60	RFZ41	RFB96	CS033	CS074	CS095	CS132	CS172	CS209	CS239	CS289	CS310	CS345	CS387	CS421	CS461	CS461	CS494	CS540	CS577	CS609	CS633	CS665
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	2.0J	0.68J	1.1J	0.27U	0.40J	0.61J	2.3J	1.3J	2.0J	0.76U	1.4J	0.91J	0.81J	0.33U	0.42J	1.0J	0.30U	1.4J-	0.97J	0.64U	0.49U	0.49U	0.49U	1.0J	0.49U	1.8U	1.8U	1.8U	1.8U
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	139	13.4	29.3	12.3	75.3	3.3J	5.2	28.7	22.2	16.1	4.6J	52.9	26.0	12.5	2.4J	19.7	17.7	12.4	1.3J	0.90U	147	18.7	18.8	14.2	40.1	32.3	23.7	1.7U	14.2
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**52400**	**405**	**4220**	**616**	**18200**	**375**	**1520**	**585**	**866**	**20000**	295	**567**	**3730**	**16800**	**428**	267	**20400**	175J	206	144J	**1850**	**17200**	**17500**	**1050**	**1500**	**14000**	**23200**	**1520**	**1100**
Iron	Y	300	**50200**	66.3J	175J	14.1U	**18300**	33.3U	33.3U	62.0J	**663**	**18900**	43.0U	226	**3220**	**16500**	33.4U	91.4J	**27300**	106J	33.3U	33.3U	**2150**	**17400**	**17300**	74.7U	**831**	**13700**	**23200**	254	**683**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	45.7	23.1	63.4	54.1	38.8	27.5	27.3	32.6	34.0	16.8	55.3	37.2	36.6	16.7	13.6	45.3	14.2	68.2	44.9	25.8	61.2	17.2	18.8	66.8	36.4	58.6	37.6	27.0	27.4
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	31000	18000	27000	38100	25500	37000	21500	26300	32900	32200	31000	25200	25600	20500	12300	29900	27900	38800	28100	35000	27200	36400	35600	31700	20900	28700	31400	23500	19000
Thallium	N	2	**8.3J**	4.2U	4.2U	4.2U	5.7U	5.7U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.16U	0.16U	0.16U	0.16U	0.16U	0.12U	0.12U	0.12U	0.12U
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	15.4J	175	523	492	125	255	298	250	313	72.0	632	302	148	69.9	127	350	31.3	643	443	337	225	15.1J	14.9J	561	248	115	10.4J	281	146

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		Field Sample ID	M84RRD8	M84RRD9	M84RRE1	M84RRE4	M86RA1	M86RA2-100504	M86RA3-100720	M86RA4	M86RA5	M86RA6	M86RA7	M86RA8	M86RA9	M86RB1	M86RB2	M86RB3	M86RB4	M86RB5	M86RB6	M86RB7	M86RB8	M86RB9	M86RC1	M86RC2	M86RC3	M86RC4	M86RC5	M86RC6
		Sample Date	07/09/2018	11/09/2018	01/15/2019	10/14/2019	11/04/2009	05/04/2010	07/20/2010	11/01/2010	03/14/2011	05/02/2011	08/09/2011	10/31/2011	02/06/2012	04/16/2012	07/23/2012	10/24/2012	02/13/2013	05/13/2013	08/21/2013	10/24/2013	03/19/2014	05/07/2014	07/28/2014	10/15/2014	03/16/2015	05/19/2015	09/22/2015	11/05/2015
		SDG	CS709	CS755	CS783	CS937	1169793	RFS41	RFS56	RFS77	RFS98	RFT16	RFT54	RFT83	RFU07	RFU43	RFV15	RFV96	RFX60	RFZ41	RFB96	CS033	CS074	CS095	CS132	CS172	CS209	CS239	CS289	CS310
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	1.0U	1.0U	1U	1U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	20.5	8.0	8.2	18.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**9150**	**811**	**1290**	**17700**	**10200**	**11700**	**23800**	**3030**	**1020**	**371**	**17600**	**1550**	**5480**	**813**	**12500**	**16300**	**1970**	**1720**	**13200**	**8810**	**605**	**586**	**574**	**3000**	273	**356**	**17300**	84.5J
Iron	Y	300	**8870**	171J	**360**	**17100**	**1240**	**2650**	**22100**	52.2U	**639**	139J	**16700**	**937**	**1400**	115J	**12000**	**11800**	**508**	**353**	**12200**	**7660**	105J	43.0U	146J	**2630**	33.4U	87.3J	**8210**	33.3U
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	45.1	30.5	56.9	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	25100	20400	20300	18600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	N	2	0.11UJ	0.11U	0.11U	0.13U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	90.4	165	242	39.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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West Yard/Amboy Field
Former Chevron Perth Amboy Facility

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		Field Sample ID	M86RC7	M86RC8	M86RC9	M86RD1	M86RD2	M86RD3	M86RD4	M86RD5	M86RD6	M86RD7	M86RD8	M86RD9	M86RE4	M091RA1	M091RA2	D0127161	M091RA3	M091RA4	M091RA7	M091RA5	M091RA6	D0706171	M91RA8	M091RA9	M091RB1	M091RB2	M091RB3	M091RB4
		Sample Date	01/20/2016	04/18/2016	06/28/2016	10/03/2016	01/03/2017	04/10/2017	07/05/2017	10/02/2017	01/10/2018	04/02/2018	07/05/2018	11/12/2018	10/18/2019	12/17/2015	01/27/2016	01/27/2016	04/19/2016	06/29/2016	04/10/2017	10/06/2016	01/09/2017	07/06/2017	07/06/2017	10/05/2017	01/11/2018	04/05/2018	07/05/2018	11/12/2018
		SDG	CS345	CS387	CS422	CS461	CS494	CS540	CS577	CS609	CS630	CS665	CS708	CS756	CS941	CS332	CS347	CS347	CS388	CS423	CS540	CS464	CS497	CS578	CS578	CS612	CS631	CS668	CS708	CS756
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	125J	66.4J	**305**	**3170**	**672**	75.8J	**766**	**10000**	81.6J	135J	**305J**	**304**	**2900**	**64800**	**61300**	**62000**	**54400**	**51400**	**63900**	**56100**	**58800**	**50900**	**51500**	**50700**	**55400**	**58300**	**54800**	**53000**
Iron	Y	300	33.3U	33.3U	74.7J	**3030**	142J	74.7U	275	**9930**	80.5U	80.5U	174J	123J	**2760**	**67900**	**59600**	**59400**	**55400**	**51100**	**65200**	**55400**	**60100**	**51000**	**50200**	**50300**	**53700**	**58400**	**53700**	**55700**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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TAL Metals Results in Groundwater - West Yard
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West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-92R	MW-92R	MW-0092R	MW-92R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R
		Field Sample ID	M091RB5	M091RB6	M091RB7	M091RB8	M091RB9	M091RC1	M091RC2	M091RC3	M091RC4	M092RA1	M092RA2	M092RA3	M092RA4	M092RA5	M092RA6	M092RA7	M92RA8	M092RA9	M092RB1	M092RB2	D0705181	M092RB3	M092RB4	M092RB5	M092RB6	M092RB7	M092RB8	M092RB9
		Sample Date	01/16/2019	04/16/2019	07/16/2019	10/18/2019	01/17/2020	04/17/2020	07/23/2020	10/09/2020	01/21/2021	12/17/2015	01/27/2016	04/19/2016	06/29/2016	10/06/2016	01/09/2017	04/06/2017	07/06/2017	10/05/2017	01/11/2018	04/05/2018	07/05/2018	07/05/2018	11/14/2018	01/17/2019	04/16/2019	07/16/2019	10/18/2019	01/17/2020
		SDG	CS784	CS840	CS898	CS941	CS982	CT044	410-8589-1	410-16763-1	410-27175-1	CS332	CS347	CS388	CS423	CS464	CS497	CS539	CS578	CS612	CS631	CS668	CS708	CS708	CS758	CS785	CS840	CS898	CS941	CS982
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**56300**	**58000**	**55100**	**45200**	**46700**	**53200**	**47000**	-	**49000**	**93800**	**94600**	**87500**	**96000**	**84100**	**84400**	**80100**	**92200**	**75700**	**77500**	**73800**	**81900**	**83600**	**75900**	**69800**	**68200**	**71400**	**64600**	**71700**
Iron	Y	300	**55400**	**56100**	**53200**	**49700**	**48000**	**51500**	**50000**	**44000**	**47000**	**92400**	**95400**	**87600**	**93800**	**84100**	**85300**	**79700**	**87000**	**77700**	**79400**	**72600**	**81000**	**80100**	**73800**	**69700**	**66600**	**72300**	**64500**	**69600**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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		Field Sample ID	M092RC1	M092RC2	M092RC3	M093RA1	M093RA2	M093RA3	M093RA4	M093RA5	M093RA6	M093RA7	M93RA8	M093RB3	D1005171	M093RA9	M093RB1	M093RB2	M093RB4	M093RB5	M093RB6	M093RB7	M093RB8	M093RB9	M093RC1	M093RC2	M093RC3
		Sample Date	04/16/2020	07/23/2020	10/09/2020	12/17/2015	01/28/2016	04/19/2016	06/29/2016	10/06/2016	01/09/2017	04/06/2017	07/06/2017	07/05/2018	10/05/2017	10/05/2017	01/11/2018	04/05/2018	11/13/2018	01/17/2019	04/17/2019	07/18/2019	10/15/2019	01/22/2020	04/17/2020	07/23/2020	10/09/2020
		SDG	CT043	410-8589-1	410-16763-1	CS332	CS348	CS388	CS423	CS464	CS497	CS539	CS578	CS708	CS612	CS612	CS631	CS668	CS757	CS785	CS841	CS899	CS938	CS985	CT044	410-8589-1	410-16763-1
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**69300**	**67000**	-	**43100**	**46600**	**97900**	**83500**	**58800**	**49400**	**15900**	**67900**	**69000**	**61300**	**57900**	**50300**	**66200**	**48600**	**75600**	**90300**	**55600**	**43900**	**41600**	**46800**	**39000**	-
Iron	Y	300	**69500**	**69000**	**63000**	**42000**	**42200**	**97100**	**82300**	**58300**	**48000**	**6310**	**66600**	**69700**	**63500**	**64100**	**49400**	**66000**	**48200**	**46700**	**66600**	**57000**	**42500**	**39800**	**44800**	**37000**	**36000**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Notes:
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Table 4b
TAL Metals Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R
		Field Sample ID	M11RA1	M11RA2-100504	M11RA3	M11RA4	M11RA5	M11RA6	M11RA7	M11RA8	M11RA9	M11RB1	M11RB2	M11RB3	M11RB4	M11RB5	M11RB6	M11RB7	M11RB8	M11RB9	M11RC1	M11RC2	M11RC3	M11RC4	M11RC5	M11RC6	M11RC7	M11RC8	M11RC9	M11RD1
		Sample Date	11/03/2009	05/04/2010	10/11/2010	05/04/2011	08/11/2011	11/07/2011	02/08/2012	04/18/2012	07/17/2012	10/22/2012	02/11/2013	05/15/2013	08/19/2013	10/21/2013	03/24/2014	05/12/2014	07/30/2014	10/21/2014	03/19/2015	05/21/2015	09/28/2015	11/10/2015	02/24/2016	04/20/2016	07/05/2016	10/05/2016	01/04/2017	04/13/2017
		SDG	1169567	RFS41	RFS73	RFT18	RFT58	RFT84	RFU09	RFU45	RFV13	RFV90	RFX58	RFZ50	RFB95	CS031	CS076	CS097	CS134	CS175	CS210	CS241	CS291	CS312	CS363	CS389	CS424	CS463	CS495	CS543
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**66000**	**199000**	**63400**	**89100**	**74200**	**54400**	**107000**	**99200**	**104000**	**73000**	**88100**	**112000**	**92300**	**73900**	**75100**	**86000**	**97000**	**68500**	**93700**	**109000**	**67900**	**72500**	**65000**	**88600**	**80900**	**68600**	**65100**	**44800**
Iron	Y	300	**65300**	**197000**	**63600**	**88200**	**75300**	**56000**	**106000**	**98700**	**109000**	**74000**	**89500**	**110000**	**95000**	**71900**	**75500**	**85600**	**96300**	**70100**	**92100**	**109000**	**67800**	**72300**	**61900**	**89300**	**79300**	**69600**	**64200**	**45700**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table 4b
TAL Metals Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300
		Field Sample ID	M11RD2	M11RD3	M11RD4	M11RD5	M11RD6	M11RD7	M11RD8	M11RD9	M11RE1	M11RE2	M11RE3	M11RE4	M11RE5	M11RE6	M11RE7	M300A1	D0505101	D0505101-100505	M300A2-100505	M300A3	M300A4	M300A5	M300A6	M300A7	M300A8	M300A9	M300B1
		Sample Date	07/13/2017	10/03/2017	01/16/2018	04/03/2018	08/06/2018	11/19/2018	01/25/2019	04/19/2019	07/19/2019	10/06/2019	01/21/2020	04/09/2020	07/20/2020	10/05/2020	01/21/2021	11/02/2009	05/05/2010	05/05/2010	05/05/2010	12/17/2015	01/28/2016	04/19/2016	06/29/2016	10/06/2016	01/09/2017	04/06/2017	07/06/2017
		SDG	CS580	CS610	CS633	CS666	CS724	CS761	CS788	CS843	CS901	CS935	CS984	CT039	410-8203-1	410-16093-1	410-27175-1	1169308	RFS42	RFS41	RFS41	CS332	CS348	CS388	CS423	CS464	CS497	CS539	CS578
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	**209J**	-	-	-	-	-	-	-	-	-	80.2U	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	0.53J	-	-	-	-	-	-	-	-	-	9.7U	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	0.97UJ	-	-	-	-	-	-	-	-	-	7.2U	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	107	-	-	-	-	-	-	-	-	-	84.9	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	1U	-	-	-	-	-	-	-	-	-	1.4U	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	-	-	-	-	-	-	1U	-	-	-	-	-	-	-	-	-	2.0U	-	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	45600J	-	-	-	-	-	-	-	-	-	202000	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	5.3U	-	-	-	-	-	-	-	-	-	3.4U	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	-	-	-	-	-	-	1.5U	-	-	-	-	-	-	-	-	-	2.1U	-	-	-	-	-	-	-	-	-	-
Copper	N	1300	-	-	-	-	-	-	8.1J	-	-	-	-	-	-	-	-	-	21.1	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**105000**	**73100**	**86700**	**115000**	**71800**	**70000**	**80800J**	**109000**	**74000**	**64500**	**90400**	**122000**	**76000**	-	**55000**	**9720**	**4040**	**14500**	**16100**	**18100**	**12600**	**11900**	**2950**	**1210**	**14000**	**22200**	**49600**
Iron	Y	300	**106000**	**70900**	**84300**	**112000**	**72300**	**69400**	**79600**	**106000**	**76300**	**63700**	**97000**	**125000**	**72000**	**67000B**	**52000**	**10200**	-	**8270**	**6370**	**18200**	**12400**	**11700**	**3020**	**1200**	**14200**	**21600**	**50800**
Lead	N	5	-	-	-	-	-	-	2J	-	-	-	-	-	-	-	-	-	6.9U	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	29900J	-	-	-	-	-	-	-	-	-	491000	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	**2620**	-	-	-	-	-	-	-	-	-	**168**	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	0.05U	-	-	-	-	-	-	-	-	-	0.056U	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	-	-	-	-	-	-	3.1U	-	-	-	-	-	-	-	-	-	5.4J	-	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	2260J	-	-	-	-	-	-	-	-	-	167000	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	21U	-	-	-	-	-	-	-	-	-	8.9U	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	5U	-	-	-	-	-	-	-	-	-	2.3U	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	-	-	-	-	-	-	**84000J**	-	-	-	-	-	-	-	-	-	**4580000**	-	-	-	-	-	-	-	-	-	-
Thallium	N	2	-	-	-	-	-	-	0.11U	-	-	-	-	-	-	-	-	-	14.0U	-	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	-	-	-	-	-	-	3U	-	-	-	-	-	-	-	-	-	2.5U	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	-	-	-	-	-	-	94.3	-	-	-	-	-	-	-	-	-	82.2	-	-	-	-	-	-	-	-	-	-

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Table 4b
TAL Metals Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301
		Field Sample ID	M300B2	M300B3	M300B4	M300B5	M300B6	M300B7	M300B8	M300B9	M300C1	M300C2	M300C3	M300C4	M300C5	M300C6	M301A1	M301A2-100506	M301A3	M301A4	M301A5	M301A6	M301A7	M301A8	M301A9	M301B1	M301B2	M301B3	M301B3	M301B5
		Sample Date	10/05/2017	01/11/2018	04/05/2018	07/02/2018	11/13/2018	01/24/2019	04/17/2019	07/18/2019	10/15/2019	01/21/2020	04/09/2020	07/22/2020	10/06/2020	01/21/2021	11/02/2009	05/06/2010	10/12/2010	05/03/2011	08/11/2011	11/07/2011	02/08/2012	04/18/2012	07/19/2012	10/17/2012	02/06/2013	05/14/2013	05/14/2013	10/22/2013
		SDG	CS612	CS631	CS668	CS707	CS757	CS787	CS841	CS899	CS938	CS984	CT039	410-8469-1	410-16246-1	410-27175-1	1169308	RFS41	RFS73	RFT17	RFT58	RFT84	RFU09	RFU45	RFV14	RFV80	RFX51	CS003	RFZ47	CS032
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2350**	**491**	**397**	109J	80.1U	**315**	**501**	197J	**218**	**217**	**380**	414U	**261**	**480**
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.7U	9.7U	10.0U	10.0U	5.8U	5.8U	5.8U	5.8U	3.5U	3.5U	0.33U	0.34U	0.33U	0.34U
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2U	7.2U	9.8U	9.8U	**11.5J**	5.1U	**12.5J**	5.1U	6.8U	0.40U	0.40U	0.63J	0.40U	0.44J
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.1	8.3	17.6	20.5	12.6	13.7	10.5	9.2	18.1	16.0	10.9	17.2	9.4	14.3
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2.3J**	**4.6J**	**6.5BJ**	**2.2J**	**2.2J**	**4.6J**	**3.7J**	**2.5J**	**2.3J**	**2.8J**	**3.9J**	3.4U	**2.5J**	**2.8J**
Cadmium	N	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9J	3.6J	2.1J	2.0U	2.7J	0.46J	0.84J	1.6J	0.36U	0.36U	0.36U	3.8U	1.3J	3.6J
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83000	44100	38100	81500	37900	36200	37700	35600	76000	31200	33500	134000	32200	34800
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4U	3.4U	3.4U	3.4U	1.5J	1.6J	1.1U	1.1U	2.2J	1.3J	2.5J	3.0J	2.2J	1.6U
Cobalt	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38.1	2.1U	2.3U	5.3	1.4J	1.0J	1.4J	0.62U	55.7	0.96J	3.1J	143	0.66U	3.8J
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7U	3.9J	2.7U	2.7U	0.94U	0.94U	1.4J	2.2J	2.1U	2.1U	2.1U	13.5U	9.8J	2.7U
Iron	N	300	**2400**	**14700**	**17700**	**24100**	**8710**	**2470**	**714**	**14700**	**3780**	40U	198J	**750**	-	**11000**	**185000**	**156000**	**130000**	**52300**	**131000**	**108000**	**127000**	**133000**	**403000**	**117000**	**116000**	**738000**	**117000**	**116000**
Iron	Y	300	**2570**	**14500**	**17800**	**21900**	**8930**	**715**	196J	**15000**	**3290**	129J	41.2U	**620**	**4700**	**10000**	**184000**	**168000**	**127000**	**25400**	**132000**	**105000**	**124000**	**132000**	**248000**	**111000**	**113000**	**681000**	**113000**	**111000**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9U	6.9U	6.9U	6.9U	2.2U	**7.3J**	2.2U	2.2U	**13.4J**	5.1U	0.19J	0.24J	0.077J	0.58J
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35800	20000	17000	19700	17500	16300	17800	17500	47400	14800	16400	91400	15700	16800
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**6770**	**3900**	**3470**	**2100**	**3360**	**3250**	**3530**	**3450**	**11000**	**3030**	**3300**	**21100**	**3070**	**3320**
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.056U	0.062J	0.046U	0.046U	0.026U	0.026U	0.026U	0.026U	0.0081U	0.070U	0.070U	-	0.070U	0.060U
Nickel	N	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	69.2	1.8U	8.4J	18.0	0.95U	0.95U	0.95U	0.95U	49.1	2.8J	1.1U	**113**	1.1U	7.3J
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10400	5970	6290	6810	5990	6060	5390	5490	6960	5860	5210	7870	4920	5590
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.4J	8.9U	8.9U	8.9U	6.9U	6.9U	6.9U	21.3	12.2J	7.5U	7.5U	42.0U	7.5U	8.4U
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3U	4.6J	2.3U	2.3U	0.91U	0.91U	0.91U	1.4J	1.2U	1.2U	1.2U	10.5U	1.2U	2.1U
Sodium	N	50000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**113000**	**92500**	**80300**	**82800**	**79200**	**77300**	**80700**	**81000**	**137000**	**73500**	**76700**	**221000**	**74600**	**80900**
Thallium	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.0U	14.0U	14.0U	14.0U	4.2U	4.2U	4.2U	4.2U	5.7U	5.7U	0.15U	0.15U	0.15U	0.15U
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5U	3.0J	3.4J	2.5U	3.7J	1.2J	1.6J	1.5J	3.8J	1.6J	1.3U	10.0U	3.1J	2.0U
Zinc	N	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	346	182	158	202	144	168	181	146	134	128	134	104	126	135

Notes:
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U - Analyte not detected at that concentration
J - Analyte concentration estimated
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Table 4b
TAL Metals Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301
		Field Sample ID	M301B6	M301B7	D0729141	M301B8	M301B9	M301C1	M301C2	M301C3	M301C4	M301C5	M301C6	M301C7	M301C8	M301C9	M301D1	M301D2	M301D3	M301D4	M301D5	M301D6	M301D7	D0125191	M301D8	D0412191	M301D9	D0712191	M301E1	D1018191	M301E2
		Sample Date	03/20/2014	05/08/2014	07/29/2014	07/29/2014	10/20/2014	03/25/2015	05/20/2015	09/24/2015	11/10/2015	02/25/2016	04/21/2016	07/11/2016	10/04/2016	01/05/2017	04/13/2017	07/11/2017	10/04/2017	01/10/2018	04/04/2018	08/06/2018	11/14/2018	01/25/2019	01/25/2019	04/12/2019	04/12/2019	07/12/2019	07/12/2019	10/18/2019	10/18/2019
		SDG	CS075	CS096	CS133	CS133	CS173	CS213	CS240	CS290	CS312	CS364	CS390	CS425	CS462	CS496	CS543	CS579	CS611	CS630	CS667	CS724	CS758	CS788	CS788	CS838	CS838	CS896	CS896	CS941	CS941
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	**302**	**240**	**285J**	**425J**	67.4U	152J	**373**	125J	126J	92.9U	**616J**	**361**	86.8UJ	**255**	**348**	150J	162J	89.4U	**234**	**441J**	153U	165J	178J	153U	153U	**482**	153U	107UJ	61.8
Antimony	N	6	0.34U	0.34U	0.33U	0.33U	0.33U	0.33U	0.33U	0.33U	0.33U	0.33U	0.33U	0.48U	0.48U	0.48U	0.48U	0.45U	0.45U	0.45U	0.45U	0.49J	0.41U	0.41U	0.41U	0.41U	0.41U	4.1U	4.1U	0.81U	0.81U
Arsenic	N	3	0.78U	0.78U	0.82U	0.82U	0.82U	0.82U	0.82U	0.54U	0.54U	0.54U	0.54U	0.68U	0.68U	0.68U	0.68U	0.72U	0.72U	0.72U	0.72U	1.4J	0.68U	0.68U	0.68U	0.68U	0.68U	0.68U	0.68U	0.68U	0.68U
Barium	N	6000	10.3	10.5	23.8	23.2	12.6	11.6	11.7	15.7	27.0	11.9	13.6	13.3	13.8	21.5	13.4	15.4	13.3	12.1	13.7	15.5	18.8	11.9	11.2	11.1	10.7	11.1	11.7	12.9	12.7
Beryllium	N	1	**3.2J**	**2.6J**	0.67U	0.67U	**1.1J**	0.91J	**2.5J**	0.70U	0.97J	1.1U	**2.5J**	**1.1J**	0.88J	0.77J	**1.1J**	2.0U	2.0U	**3.0J**	2.0U	1.0U	1.0U	**1.9J**	**1.9J**	1J	1J	**1.1J**	**1.1J**	1U	1U
Cadmium	N	4	0.76U	0.76U	0.33U	0.33U	0.33U	0.33U	0.69J	1.5U	0.68UJ	0.64U	0.64U	0.49U	0.49U	0.54J	0.49U	1.8U	1.9J	2.4J	1.8U	1.0U	1.0U	1U	1U	1U	1U	1U	1U	1U	1U
Calcium	N	NA	35800	43100	47600	49100	27700	36400	51800	67400	57300	50000	51900	54100	42300	79000	108000	39300	33800	31800	53900	23900	41400	50200J	50100J	59100	52000	28500	28200	23300	23000
Chromium	N	70	1.6U	2.0J	1.3U	1.3U	1.3U	2.6J	1.4J	11.2J	1.7J	2.5J	2.0U	5.4J	1.8UJ	1.8U	1.8U	3.3U	3.3U	3.3U	3.3U	5.3U	5.3U	5.3U	5.3U	5.3U	5.3U	5.3U	5.3U	1.6U	1.6U
Cobalt	N	NA	1.7J	5.1	1.8J	1.3J	1.3J	7.0	15.1	48.4	4.2J	6.7	10.4	30.1	21.0J	8.6	7.1	2.7J	1.7U	4.3J	9.2	1.5U	2.9J	7.7	8.2	12.8	10.6	1.5U	1.5U	1.5U	1.5U
Copper	N	1300	2.7U	2.7U	2.8U	3.0J	5.2J	2.8U	2.8U	13.1	5.5J	3.2U	3.2U	12.0U	4.1U	4.1U	4.1U	4.0U	4.0UJ	4.0U	4.0U	7.8J	14.6UJ	6.2U	6.2U	6.2U	6.2U	6.2U	8.4UJ	12U	12U
Iron	N	300	**112000**	**129000**	**35600**	**34000**	**102000**	**73500**	**152000**	**293000**	**22800**	**68300**	**85300**	**244000**	**207000**	**10200**	**4940**	**22500**	**68700**	**81200**	**32800**	**1720**	**111000**	**86400J**	**86000J**	**111000**	**104000**	**95000**	**93100**	**79800**	**79900**
Iron	Y	300	**107000**	**123000**	**31500**	**32000**	**101000**	**72900**	**145000**	**329000**	**23600**	**67100**	**85300**	**251000**	**201000**	**10600**	**2870**	**21600**	**67900**	**90700**	**34000**	84.0J	**101000**	**83400**	**84900**	**111000**	**114000**	**92400**	**90100**	**79400**	**78400**
Lead	N	5	0.10J	0.099J	0.48J	0.55J	0.082U	0.18J	0.23J	0.13U	0.16J	0.14J	0.42J	0.43J	0.65J	0.46J	0.47J	0.34J	0.12J	0.17J	0.31J	3.0J	2.1J	1.1U	1.1U	1.1U	1.1U	1.1U	1.1U	0.14U	0.14U
Magnesium	N	NA	16500	18100	11700	11700	13700	14900	23600	40900	15000	17800	20700	30400	24900	23000	26200	10500	12400	14100	17100	5400	16200	18300J	18200J	20800	18900	14100	13900	11700	11500
Manganese	N	50	**3320**	**3490**	**1080**	**993**	**2670**	**2620**	**4510**	**8160**	**1310**	**2370**	**3280**	**5920**	**5200**	**1780**	**1500**	**1050**	**1830**	**2760**	**2360**	**132**	**2930**	**2950**	**2910**	**3510**	**3190**	**2780**	**2770**	**2160**	**2130**
Mercury	N	2	0.060U	0.060U	0.060U	0.060U	0.060U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.073UJ	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.05U	0.05U	0.05U	0.05U	0.12UJ	0.11UJ	0.05U	0.05U
Nickel	N	100	1.5U	2.3J	8.2J	7.3J	1.6U	7.3J	11.0	46.0	15.6	7.3J	12.1	17.0	9.7J	18.5	16.4	6.7J	4.9J	4.0U	11.9	4.7J	3.1U	5.5J	5.3J	10.2	9.5J	3.1U	5.7UJ	2.5UJ	3.7UJ
Potassium	N	NA	4890	5310	6940	7280	5250	4290	5060	6360	7250	5760	5170	5500	5550	6530	4420	4290	5270	4380	4640	2820	5870	4880J	4820J	5370	5130	4770	4940	4780	4570
Selenium	N	40	8.4U	8.4U	4.8U	4.8U	4.8U	11.8J	4.8U	41.0U	8.2U	8.6J	17.0J	28.8	9.7U	9.7U	9.7U	9.3U	9.3U	9.3U	9.3U	21.0U	21.0U	21U	21U	21U	21U	21U	21U	16U	16U
Silver	N	40	2.1U	2.1U	1.8U	1.8U	1.8U	1.8U	1.8UJ	1.4U	1.4U	1.8U	1.8U	1.9U	17.5	1.9U	1.9U	2.4U	2.4U	2.4U	2.4U	5.0U	5.0U	5U	5U	5U	5U	5U	5U	5U	5U
Sodium	N	50000	**74000**	**76800**	**52700**	**52400**	**66700**	**58800**	**81100**	**116000**	**52700**	**57600**	**74400**	**99500**	**88500**	**64700**	43000	**53400**	**57000**	**62900**	**61600**	29300	**64300**	**64000J**	**64000J**	**67800**	**65200**	**61800**	**62400**	**56600**	**56100**
Thallium	N	2	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.16U	0.16U	0.16U	0.16U	0.12U	0.12U	0.12U	0.12U	0.11U	0.11UJ	0.11U	0.11U	0.11U	0.11U	0.11U	0.11U	0.13U	0.13U
Vanadium	N	NA	2.0U	2.2J	1.9U	1.9U	1.9U	1.9U	3.6J	1.4U	1.4U	2.3U	2.3U	2.6J	3.2J	1.6U	1.6U	1.6U	1.6U	1.6U	1.6U	3.0U	3.0U	3U	3U	3.2J	3U	5.5J	3U	1.9U	1.9U
Zinc	N	2000	136	163	41.9	37.3	118	159	150	99.7	109	113	153	101	180	105	138	96.5	74.3	88.0	242	32.1J	257	259	255	137	129	107	115	84.2	87.5

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West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302
		Field Sample ID	D0123201	M301E3	D0420201	M301E4	M301E5	D1007201	M301E6	M302A1	M302A2-100504	M302A3	M302A4	D0811111	M302A5	M302A6	M302A7	M302A8	M302A9	M302B1	M302B2	M302B3	M302B4	M302B5	M302B6	M302B7	M302B8	M302B9	M302C1	M302C2
		Sample Date	01/23/2020	01/23/2020	04/20/2020	04/20/2020	07/16/2020	10/07/2020	10/07/2020	11/03/2009	05/04/2010	10/11/2010	05/04/2011	08/11/2011	08/11/2011	11/07/2011	02/08/2012	04/17/2012	07/17/2012	10/22/2012	03/14/2013	05/15/2013	08/19/2013	10/21/2013	03/24/2014	05/12/2014	07/30/2014	10/21/2014	03/19/2015	05/21/2015
		SDG	CS987	CS987	CT045	CT045	410-7999-1	410-16419-1	410-16419-1	1169567	RFS41	RFS73	RFT18	RFT58	RFT58	RFT84	RFU09	RFU44	RFV13	RFV90	RFY11	RFZ50	RFB95	CS031	CS076	CS097	CS134	CS175	CS210	CS241
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	**214**	196	**348**	**380**	**360**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	0.41U	0.41U	0.41U	0.41U	0.41U	0.41U	0.41U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	0.68U	0.68U	0.68U	0.68U	0.68U	0.68U	0.68U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	12.5	12.6	10.7	10.6	13	14	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	**1.8J**	**1.9J**	**1.4J**	**1.4J**	**2.4J**	1U	1U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	1.6J	1.7J	1U	1U	1U	1U	1U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	N	NA	40500	40700	32800	32300	44000	23000	23000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	2UJ	1.9UJ	1.6U	1.6U	2.2J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	7	7.2	3.7J	3.6J	6.2	1.5U	1.5U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	N	1300	12U	12U	12U	12U	12U	12U	12U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**68700**	**67400**	**60300**	**59500**	**81000**	-	-	**1050**	**1180**	289	83.6J	**31500**	**347**	**525**	14.1U	87.3J	33.3U	36.6J	58.6J	33.3U	43.0U	43.0U	126J	43.0U	79.1J	64.0J	**739**	44.7J
Iron	Y	300	**67300**	**66700**	**59000**	**59400**	**74000**	**63000**	**62000**	**907**	52.2U	52.2U	52.2U	**29000**	14.1U	**2830**	14.1U	14.1U	33.3U	33.3U	33.3U	33.3U	43.0U	43.0U	56.3J	43.0U	33.4U	33.4U	33.4U	33.4U
Lead	N	5	0.29J	0.29J	0.69	0.7	0.2J	0.32J	0.35J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	16100	16200	11900	11600	16000	11000	11000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	**2760**	**2730**	**2080**	**2040**	**2700**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	0.057UJ	0.05U	0.061J	0.05U	0.091J	0.079U	0.079U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	4.5J	4.2J	4.6J	4.8J	8.4J	2.1U	2.1U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	N	NA	4810	4790	3900	3870	4700	4800	4700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	16U	16U	16U	16U	16U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	5U	5U	5U	5U	5U	5U	5U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	**61200**	**61400**	47600	46900	**64000**	**57000**	**51000**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	N	2	0.13U	0.13U	0.13U	0.13U	0.13U	0.13U	0.13U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	1.9U	1.9U	1.9U	1.9U	1.9U	3.7J	1.9U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	129	128	169	174	95	110	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table 4b
TAL Metals Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302R	MW-302R	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303
		Field Sample ID	M302C3	M302C4	M302C5	M302C6	M302C7	M302C8	M302C9	M302D3	M302D4	M302D5	M302D6	M302D7	M302D8	M302D9	M302E1	M302E2	M302E3	M302E5	M302E6	M302E7	M302E4	M302RE8	M303A1	M303A2-100504	M303A3	M303A4	M303A5	M303A6
		Sample Date	09/28/2015	11/11/2015	02/24/2016	04/20/2016	07/05/2016	10/05/2016	01/04/2017	07/13/2017	10/03/2017	01/09/2018	04/03/2018	07/10/2018	11/19/2018	01/23/2019	04/18/2019	07/18/2019	10/17/2019	04/21/2020	07/20/2020	10/05/2020	01/15/2020	01/19/2021	11/03/2009	05/04/2010	10/11/2010	05/04/2011	08/11/2011	11/07/2011
		SDG	CS291	CS313	CS363	CS389	CS424	CS463	CS495	CS580	CS610	CS629	CS666	CS711	CS760	CS786	CS842	CS900	CS939	CT046	410-8203-1	410-16093-1	CS980	410-26896-1	1169567	RFS41	RFS73	RFT18	RFT58	RFT84
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	91.1J	33.3U	87.1UJ	33.3U	74.7U	74.7U	74.7U	80.5U	80.5U	92.8J	80.5U	40.0UJ	93.3J	143J	**367**	118J	120J	111J	**310**	-	134UJ	260	**9720**	**85000**	**42900**	**47900**	**31900**	**10700**
Iron	Y	300	33.3U	33.3U	33.3U	33.3U	74.7U	74.7U	74.7U	80.5U	80.5U	80.5U	80.5U	40.0UJ	40.0U	40U	40U	40U	40U	41.2U	41U	41U	41.2U	41U	**9640**	**86200**	**42900**	**45300**	**27700**	**11700**
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table 4b
TAL Metals Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303
		Field Sample ID	M303A7	M303A8	M303A9	M303B1	M303B2	M303B3	M303B4	M303B5	M303B6	M303B7	M303B8	M303B9	M303C1	M303C2	M303C3	M303C4	M303C5	M303C6	M303C7	M303C8	M303C9	M303D3	M303D4	M303D5	M303D6	M303D7	M303D8	M303D9	M303E1
		Sample Date	02/08/2012	04/17/2012	07/17/2012	10/22/2012	02/11/2013	05/15/2013	08/19/2013	10/21/2013	03/24/2014	05/12/2014	07/30/2014	10/21/2014	03/19/2015	05/21/2015	09/28/2015	11/11/2015	02/24/2016	04/20/2016	07/11/2016	10/05/2016	01/04/2017	07/13/2017	10/03/2017	01/09/2018	04/03/2018	07/10/2018	11/19/2018	01/23/2019	04/18/2019
		SDG	RFU09	RFU44	RFV13	RFV90	RFX58	RFZ50	RFB95	CS031	CS076	CS097	CS134	CS175	CS210	CS241	CS291	CS313	CS363	CS389	CS425	CS463	CS495	CS580	CS610	CS629	CS666	CS711	CS761	CS786	CS842
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Antimony	N	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Arsenic	N	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Barium	N	6000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beryllium	N	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cadmium	N	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Calcium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chromium	N	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cobalt	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Copper	N	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iron	N	300	**4940**	271	**9750**	**3420**	**1300**	225	**1470**	239	**849J**	128J	137J	151J	**458**	**632**	**6340**	33.3U	198UJ	103J	96.4J	135J	245	244	93.0J	**434**	80.5U	40.0UJ	**636**	**4220**	**559**
Iron	Y	300	**4840**	147J	**8100**	190J	**1140**	33.3U	**811**	43.0U	129J	43.0U	33.4U	33.4U	200	33.4U	**6070**	33.3U	119UJ	51.3J	74.7U	74.7U	74.7U	80.5U	80.5U	80.5U	80.5U	40.0UJ	55.4J	40U	45.1J
Lead	N	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Magnesium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	N	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mercury	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	N	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Potassium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	N	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium	N	50000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	N	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	N	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	N	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Table 4b
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West Yard/Amboy Field
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		Location ID	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304
		Field Sample ID	M303E2	M303E3	M303E4	M303E5	M303E6	M303E7	M303E8	M304A1	M304A2-100505	M304A4	M304A5	M304A6	M304A7	M304A8	M304A9	M304B1	M304B2	M304B3	M304B4	M304B5	M304B5	M304B6	M304B7	M304B8	M304B9	M304C1	M304C2	M304C3
		Sample Date	07/18/2019	10/17/2019	01/13/2020	04/14/2020	07/16/2020	10/01/2020	01/14/2021	11/02/2009	05/05/2010	10/12/2010	05/03/2011	08/09/2011	10/26/2011	02/07/2012	04/17/2012	07/23/2012	10/24/2012	02/06/2013	05/14/2013	10/22/2013	10/22/2013	03/20/2014	05/08/2014	07/29/2014	10/20/2014	03/25/2015	05/20/2015	09/24/2015
		SDG	CS900	CS939	CS978	CT041	410-7999-1	410-15683-1	410-26408-1	1169308	RFS41	RFS73	RFT17	RFT54	RFT82	RFU08	RFU44	RFV15	RFV96	RFX51	RFZ47	CS032	RFB97	CS075	CS096	CS133	CS173	CS213	CS240	CS290
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	-	-	-	-	-	-	-	143J	127J	**777**	**1390**	115J	80.1U	135J	80.1U	166J	**294**	74.3U	114J	82.8U	152J	95.3J	82.8U	138J	67.4U	67.4U	78.1J	194J
Antimony	N	6	-	-	-	-	-	-	-	9.7U	9.7U	10.0U	**10.0J**	5.8U	5.8U	5.8U	5.8U	3.5U	3.5U	0.47J	2.9	0.76J	1.3	3.3	3.1	2.5	3.5	3.1	**8.1**	**8.3**
Arsenic	N	3	-	-	-	-	-	-	-	**9.5J**	7.2U	9.8U	9.8U	**5.8J**	**5.5J**	5.1U	5.1U	6.8U	2.5	0.89J	**3.6**	**3.5**	2.4	0.94J	1.4J	1.9J	**3.8**	1.4J	1.7J	**3.2**
Barium	N	6000	-	-	-	-	-	-	-	170	189	278	388	294	308	317	310	315	298	250	334	319	332	104	82.3	208	230	233	315	359
Beryllium	N	1	-	-	-	-	-	-	-	1.4U	1.4U	**1.8B**	1.4U	0.24U	0.24U	0.24U	0.24U	0.67U	0.67U	0.67U	0.67U	0.67U	0.67U	0.67U	0.67U	0.67U	0.67U	0.67U	0.67U	0.70U
Cadmium	N	4	-	-	-	-	-	-	-	2.0U	2.0U	2.0U	2.0U	0.40J	0.27U	0.27U	0.27U	0.36U	0.36U	0.36U	0.36U	0.76U	0.76U	0.76U	0.76U	0.33U	0.33U	0.33U	0.59J	0.37J
Calcium	N	NA	-	-	-	-	-	-	-	89000	41000	22000	31600	24700	28000	30900	27400	26400	23400	22400	26700	23200	25500	47300	62600	33200	28300	61300	42700	34700
Chromium	N	70	-	-	-	-	-	-	-	3.4U	3.4U	3.4U	3.4U	2.1J	1.1U	1.1U	1.1U	1.1U	1.6J	1.1U	1.1U	1.6U	1.6U	1.6U	1.6U	1.3U	1.3U	3.2J	1.3U	2.3J
Cobalt	N	NA	-	-	-	-	-	-	-	7.6	2.1U	2.3U	2.3U	0.62U	0.62U	0.62U	0.62U	0.66U	0.66U	1.9J	0.66U	1.3U	1.3U	7.2	6.3	1.0U	1.0U	2.7J	1.7J	1.3J
Copper	N	1300	-	-	-	-	-	-	-	2.7U	2.7U	2.7U	4.7J	0.94U	0.94U	0.94U	3.6J	2.1U	2.1U	2.1U	3.5J	2.7U	2.7U	2.9J	3.0J	2.8U	3.4J	2.8U	8.3J	7.9J
Iron	N	300	**532**	114J	**1130**	**576**	**430**	-	**370**	**21500**	**11500**	**8280**	**23400**	**9920**	**9030**	**10800**	**10500**	**12200**	**11300**	**6420**	**17200**	**12500**	**11300**	**7810**	**10200**	**13300**	**18200**	**14800**	**17200**	**15900**
Iron	Y	300	40U	40U	41.2U	41.2U	41U	41U	110J	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	N	5	-	-	-	-	-	-	-	6.9U	6.9U	6.9U	6.9U	**5.9J**	2.4J	2.2U	2.2U	5.1U	5.1U	0.047U	0.54J	0.37J	0.41J	0.33J	0.37J	0.40J	0.35J	0.28J	1.0	1.1
Magnesium	N	NA	-	-	-	-	-	-	-	19400	12000	8880	12200	9420	9770	9940	9410	8500	8860	8370	9210	9160	8910	14900	15700	11200	10400	16300	13600	13700
Manganese	N	50	-	-	-	-	-	-	-	**3330**	**1680**	**1300**	**1840**	**1390**	**1490**	**1590**	**1470**	**1340**	**1310**	**1270**	**1460**	**1440**	**1490**	**2340**	**1990**	**2160**	**2000**	**2710**	**2640**	**2470**
Mercury	N	2	-	-	-	-	-	-	-	0.056U	0.11J	0.046U	0.046U	0.026U	0.026U	0.026U	0.026U	0.079J	0.070U	0.070U	0.070U	0.060U	0.060U	0.060U	0.060U	0.060U	0.060U	0.050U	0.050U	0.050U
Nickel	N	100	-	-	-	-	-	-	-	3.4J	1.8U	3.0U	3.0U	0.95U	0.95U	0.95U	0.95U	1.1U	1.1U	1.1U	1.1U	1.5U	1.5U	6.1J	6.9J	1.6U	1.6U	4.1J	1.6U	1.8J
Potassium	N	NA	-	-	-	-	-	-	-	5870	4190	4920	4840	4980	5030	4450	4210	4610	5200	4110	4100	4930	5100	4280	4240	4800	4970	4310	4550	5450
Selenium	N	40	-	-	-	-	-	-	-	8.9J	8.9U	8.9U	8.9U	6.9U	6.9U	6.9U	15.4J	7.5U	7.5U	7.5U	7.5U	8.4U	8.4U	8.4U	8.4U	4.8U	4.8U	5.0J	4.8U	8.2U
Silver	N	40	-	-	-	-	-	-	-	2.3U	2.3U	2.3U	2.3U	0.91U	0.91U	0.91U	0.91U	1.2U	1.2U	1.2U	1.2U	2.1U	2.1U	2.1U	2.1U	1.8U	1.8U	1.8U	1.8UJ	1.4U
Sodium	N	50000	-	-	-	-	-	-	-	**78800**	**55100**	**83600**	**71800**	**82100**	**65500**	**53700**	**66200**	**71900**	**92800**	**77800**	**73900**	**88000**	**81900**	**75700**	**62700**	**73100**	**85000**	**67100**	**76100**	**101000**
Thallium	N	2	-	-	-	-	-	-	-	**40.9**	14.0U	14.0U	14.0U	4.2U	4.2U	4.2U	4.2U	5.7U	5.7U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U	0.15U
Vanadium	N	NA	-	-	-	-	-	-	-	2.5U	2.5U	2.5U	3.2J	0.96U	1.6J	0.96U	0.96U	1.3U	1.3U	1.3U	1.3U	2.0U	2.0U	2.0U	2.0U	1.9U	1.9U	1.9U	1.9U	1.4U
Zinc	N	2000	-	-	-	-	-	-	-	16.0J	10.2J	10.9J	59.8	6.5J	7.6J	8.3J	7.9J	7.8J	11.5J	40.1	17.3J	4.9J	6.3J	196	248	36.6	19.4J	206	382	358

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quantification limit
J- - Analyte concentration biased low
- Indicates the parameter was not analyzed or was rejected

Table 4b
TAL Metals Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

		Location ID	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304	MW-304
		Field Sample ID	M304C4	M304C5	M304C6	M304C7	M304C8	M304C9	M304D1	M304D2	M304D3	M304D4	M304D5	M304D6	M304D7	M304D8	M304D9	M304E1	M304E2	M304E3	M304E4	D0717201A	M304E5	M304E6
		Sample Date	11/10/2015	02/25/2016	04/21/2016	07/11/2016	10/04/2016	01/06/2017	04/13/2017	07/11/2017	10/04/2017	01/10/2018	04/04/2018	08/06/2018	11/15/2018	01/24/2019	04/12/2019	07/15/2019	10/16/2019	01/15/2020	04/15/2020	07/17/2020	07/17/2020	10/08/2020
		SDG	CS312	CS364	CS390	CS425	CS462	CS496	CS543	CS579	CS611	CS630	CS667	CS724	CS759	CS787	CS838	CS897	CS940	CS980	CT042	410-8119-1	410-8119-1	410-16638-1
Parameter Name/Units	**Filtered**	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Aluminum	N	200	89.3J	130J	92.9U	125J	86.8UJ	86.8U	86.8U	89.4U	**301**	**243**	97.3J	153U	**476**	200J	**275J**	153U	24.9UJ	38.3	22J	150U	150U	-
Antimony	N	6	3.7	**21.4**	2.6	2.6	3.6	**40.5**	**7.9**	3.0	2.6	2.4	**22.2**	1.7J	**13.2**	4.7	**24.8**	3.7	1J	4.1	2.8	2.7	2.7	1.1
Arsenic	N	3	1.7UJ	1.3J	2.0J	2.0	2.6	1.4J	0.73J	2.4	2.4	1.4J	1.2J	**3.4J**	**10.8**	**3.6**	**9.1**	**3.7**	2.3	3	1.4J	2.8	2.7	1.5J
Barium	N	6000	358	31.2	426	440	433	53.6	112	364	381	352	28.6	106	127	85.2	123	116	99.3	52.8	48.6	68	69	76
Beryllium	N	1	0.70U	1.1U	1.1U	0.67U	0.67U	0.67U	0.67U	2.0U	2.0U	2.0U	2.0U	1.0U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Cadmium	N	4	0.74UJ	1.0J	0.64U	0.49U	0.49U	1.2J	0.57J	1.8U	1.8U	1.8U	1.8U	1.0U	1U	1.7UJ	1U	1U	1U	1U	1U	1U	1U	1U
Calcium	N	NA	35000	235000	53400	46500	37900	362000	138000	58700	52400	51600	253000	65800	233000	141000	76000	76000	61300	88400	104000	66000	66000	55000
Chromium	N	70	1.5U	2.1J	2.0U	1.8U	1.8UJ	1.8U	1.8U	3.3U	3.3U	3.3U	3.3U	5.3U	5.3U	5.3U	5.3U	5.3U	3.1J	2.6J	1.6U	2.9J	2.9J	-
Cobalt	N	NA	0.90U	28.2	1.4J	1.9U	1.9UJ	11.3	24.7	1.7U	1.7U	1.7U	31.1	4.2J	28.1	11.8	4.1J	3.2UJ	2.3J	5.4	4.6J	2J	1.9J	1.5U
Copper	N	1300	6.3J	14.1J	3.2U	4.4UJ	4.2UJ	6.9UJ	10.6	4.2J	8.1J	9.0J	22.7	6.2U	29.5J	11.3UJ	12.2UJ	6.2U	12U	12U	12U	12U	12U	12U
Iron	N	300	**15800**	**1550**	**22200**	**20500**	**19500**	**2250**	**12100**	**28400**	**25800**	**23700**	**1630**	**28500**	**17200**	**22800**	**43800**	**38900**	**33300**	**29300**	**27300**	**37000**	**38000**	-
Iron	Y	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lead	N	5	0.46J	1.3	0.33J	0.56J	0.56J	0.34J	0.83J	0.56J	1.0	0.76J	0.67J	1.1U	4	1.7J	2.4J	1.1U	0.18UJ	0.44UJ	0.3J	0.33J	0.3J	0.38J
Magnesium	N	NA	13800	38700	19000	17100	16000	73900	33100	22800	21100	22300	50200	25200	39600	33600	29300	29500	25200	30600	31400	28000	29000	25000
Manganese	N	50	**2720**	**1020**	**3780**	**3650**	**3270**	**854**	**4530**	**5170**	**4780**	**5060**	**1680**	**6810**	**3220**	**6060**	**9980**	**10700**	**8790**	**9740**	**9570**	**10000**	**10000**	-
Mercury	N	2	0.050U	0.050U	0.050U	0.068UJ	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.050U	0.05U	0.05U	0.05U	0.05U	0.05U	0.051UJ	0.05U	0.084J	0.084J	0.079U
Nickel	N	100	1.3U	34.9	2.5U	2.8U	2.8U	67.5	15.9	4.0U	4.0U	4.0U	23.9	3.1U	5.7J	7.5UJ	3.1U	3.1U	2.1U	9.7UJ	8.1J	2.1U	2.1U	2.1U
Potassium	N	NA	5510	4220	5300	5430	6110	8020	5840	6190	6790	5790	8740	5920	5100	5030	5090	5790	5650	5520	5220	5500	5500	6000
Selenium	N	40	8.2U	8.2U	9.7U	9.7U	9.7U	9.7U	9.7U	11.0J	9.3U	9.3U	9.3U	21.0U	21U	21U	21U	26.6UJ	16U	16U	16U	16U	16U	-
Silver	N	40	1.4U	1.8U	1.8U	1.9U	1.9U	1.9U	1.9U	2.4U	2.4U	2.4U	2.4U	5.0U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Sodium	N	50000	**104000**	**53500**	**105000**	**107000**	**118000**	**206000**	**104000**	**118000**	**123000**	**132000**	**87300**	**128000**	**72100**	**95600**	**124000**	**137000**	**140000**	**138000**	**116000**	**140000**	**140000**	**140000**
Thallium	N	2	0.15U	0.15U	0.15U	0.16U	0.16U	0.16U	0.16U	0.12U	0.12U	0.12U	0.12U	0.11U	0.11U	0.11U	0.11U	0.11U	0.13U	0.13U	0.13U	0.13U	0.13U	0.13U
Vanadium	N	NA	1.4U	2.3U	2.3U	1.6U	1.6U	1.6U	1.6U	1.6U	1.6U	1.6U	1.6U	3.0U	3U	3U	3U	3U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U
Zinc	N	2000	131	1500	112	64.6	128	**2280**	667	26.6	59.0	28.3	951	45.4	234	84.2	125	38.3	13.3J	581	279	20	20	11J

Notes:
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U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quantification limit
J- - Analyte concentration biased low
- Indicates the parameter was not analyzed or was rejected

Table 5a
MNA Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R
	Field Sample ID	M76RA6X	M76RA7X	M76RA8X	M76RA9X	M76RB1X	M76RB2X	M76RB3X	M76RB4X	M76RB5X	M76RB6X	D0214131	M76RB7X	M76RB8X	M76RB9X	D1025132	M76RC1X	M76RC2X	M76RC3X	M76RC4X	D1016141	M76RC5X	M76RC6X	M76RC7X
	Sample Date	08/03/2010	11/02/2010	03/15/2011	05/03/2011	08/16/2011	11/01/2011	02/07/2012	04/17/2012	07/20/2012	11/15/2012	02/14/2013	02/14/2013	05/14/2013	08/22/2013	10/25/2013	10/25/2013	03/21/2014	05/08/2014	07/29/2014	10/16/2014	10/16/2014	03/17/2015	05/20/2015
	SDG	RFS62	RFS77	RFS98	RFT16	RFT59	RFT83	RFU07	RFU43	RFV14	RFX06	RFX60	RFX60	RFZ41	RFB96	CS033	CS033	CS075	CS095	CS132	CS172	CS172	CS209	CS239
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	119000	179000	32000	131000	184000	263000	193000	146000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	460U	460U	460U	460U	460U	460U	460U	460U	700U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	-	-	-	-	-	-	-	-	-	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U
Ammonia Nitrogen As N	3000	650	480J	200U	600J	200U	200U	300J	810	200U	380J	360J	210J	200U	540J	200U	200U	220J	540J	200U	720	540J	430J	200U
Nitrogen, Nitrate as N	10000	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	46J	57J	40U	40U	40U	40U	40U	130	87J	40U	40U	40U	40U
Nitrogen, Nitrite	1000	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U
Sulfate (SO4)	250000	134000	123000	**467000**	**299000**	124000	169000	144000	97400J	83500	92100	**253000**	**257000**	**346000**	**255000**	123000	47500	249000	**352000**	239000	71000	68400	**356000**	**338000**
Sulfide	NA	530U	530U	1100U	530U	530U	530U	600U	600U	600U	600U	600U	600U	1200U	600U	600U	600U	1200U	600U	600U	600U	600U	2700U	680U
Total Organic Carbon (TOC)	NA	5000	5700	3400	6800	7400	11600	5800	5500	12900	7500	4500	4200	3000	7700	7300	7200	6700	3800	5900	5600	5700	3000	2200
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	870	270J	390	250U	250U	250U	250U

	Location ID	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R	MW-0076R
	Field Sample ID	M76RC8X	M76RC9X	M076RD1X	M076RD2X	M076RD2X	M76RD3X	M76RD4X	M076RD5X	M076RD6X	M076RD7X	M076RD8X	D0403181	M076RD9X	M076RE1X	M0076RE2X	M076RE3X	M076RE4X	M076RE5X	M076RE6X	M076RE7X	M076RE8X	M076RE9X	M076RF1X
	Sample Date	09/23/2015	11/10/2015	01/22/2016	04/19/2016	04/19/2016	10/11/2016	01/03/2017	04/12/2017	07/06/2017	10/03/2017	01/19/2018	04/03/2018	04/03/2018	07/03/2018	11/08/2018	01/15/2019	04/11/2019	07/11/2019	10/06/2019	01/15/2020	04/10/2020	07/15/2020	10/02/2020
	SDG	CS289	CS311	CS346	CS387	CS421	CS466	CS494	CS541	CS577	CS609	CS633	CS665	CS665	CS707	CS754	CS783	CS837	CS895	CS935	CS980	CT040	410-7833-1	410-15915-1
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	700U	700U	700U	700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	2600U	2600U	2600U	8000U	8000U
Ammonia Nitrogen As N	3000	17500	790	1600	200U	280J	200U	570J	300J	200U	460J	-	-	-	-	420J	360J	250U	740J	320J	250U	250U	1300U	500U
Nitrogen, Nitrate as N	10000	40U	40U	40U	63J	210	40U	49J	40U	40U	40U	90J	40U	40U	93J	40U	94J	100	40U	170	110	77J	61J	40UJ
Nitrogen, Nitrite	1000	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15UJ	260	15U	15U	15U	15UJ	15U
Sulfate (SO4)	250000	**310000**	120000	143000	247000	**323000**	177000	164000	**327000**	**260000**	242000	**1340000**	**296000**	**298000**	**298000**	89100	117000	214000	79000J	197000J	173000J	199000J	140000J	31000J
Sulfide	NA	680U	680U	680U	700U	700U	700U	700U	700U	700U	700U	1400U	1400U	1400U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U
Total Organic Carbon (TOC)	NA	7400	6100	8000	3000	5000	7300	6100	4400	4700	6500	4400	3700	3800	4300	10700	5400	3500	6900	3900	4600	3300	-	-
Total Phosphorus as PO4 water	NA	250U	270J	250U	-	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	-	-

	Location ID	MW-0076R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R
	Field Sample ID	M076RF2X	M77RA1X	M77RA2X-100507	D0721101-100721	M77RA3X-100721	M77RA4X	M77RA5X	M77RA6X	M77RA7X	M77RA8X	M77RA9X	M77RB1X	M77RB2X	M77RB3X	M77RB4X	M77RB5X	M77RB6X	D1025131	M77RB7X	M77RB8X	D0508141	M77RB9X	M77RC1X
	Sample Date	01/19/2021	11/04/2009	05/07/2010	07/21/2010	07/21/2010	11/02/2010	03/15/2011	05/03/2011	08/16/2011	11/01/2011	02/07/2012	04/17/2012	07/20/2012	11/15/2012	02/14/2013	05/14/2013	08/22/2013	10/25/2013	10/25/2013	03/21/2014	05/08/2014	05/08/2014	07/29/2014
	SDG	410-26896-1	1169567	RFS41	RFS56	RFS56	RFS77	RFS98	RFT16	RFT59	RFT83	RFU07	RFU43	RFV14	RFX06	RFX60	RFZ41	RFB96	CS033	CS033	CS075	CS095	CS095	CS132
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	301000	221000	237000	229000	342000	233000	229000	322000	292000	261000	232000	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	-	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	700U	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	180000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	8000U	-	-	-	-	-	-	-	-	-	-	-	-	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U
Ammonia Nitrogen As N	3000	960	200U	200U	560J	200U	860	200U	390J	200U	200U	360J	200U	860	200U	200U	200U	600	200U	510J	300J	360J	420J	450J
Nitrogen, Nitrate as N	10000	40UJ	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	50J	40U	40U	40U	40U	40U	40U	40U	40U
Nitrogen, Nitrite	1000	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U
Sulfate (SO4)	250000	120000J	**323000**	**298000**	181000	181000	**413000**	**423000**	**318000**	**278000**	**292000**	248000	237000	125000	216000	249000	235000	**276000**	46600	130000	**518000**	**450000**	**464000**	**299000**
Sulfide	NA	700U	530U	530U	530U	530U	530U	530U	530U	530U	530U	600U	600U	600U	1400J	600U	600U	600U	600U	600U	600U	600U	600U	600U
Total Organic Carbon (TOC)	NA	-	7800	5300	5900	5800	8900	5500	5000	8200	7500	5100	5700	8000	8600	4900	5300	8400	8700	8200	9000	6600	6400	8700
Total Phosphorus as PO4 water	NA	-	-	250U	580	680	370	250J	250U	250U	250U	250U	350	250U	250U	250U	270J	280J	250U	310J	480	250U	260J	380

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quantification limit
J- - Analyte concentration biased low
- Indicates the parameter was not analyzed or was rejected

Table 5a
MNA Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-77R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R
	Field Sample ID	M77RC2X	M77RC3X	M77RC4X	M77RC5X	M77RC8X	M77RD1X	M80RA1X	M80RA2X-100507	M80RA3X-100721	M80RA4X	M80RA5X	M80RA6X	M80RA7X	M80RA8X	M80RA9X	M80RB1X	M80RB2X	M80RB3X	M80RB4X
	Sample Date	10/16/2014	03/26/2015	05/20/2015	09/23/2015	04/19/2016	10/11/2016	11/03/2009	05/07/2010	07/21/2010	11/02/2010	03/15/2011	05/03/2011	08/16/2011	11/01/2011	02/07/2012	04/17/2012	07/20/2012	10/25/2012	02/07/2013
	SDG	CS172	CS213	CS239	CS289	CS387	CS466	1169308	RFS41	RFS56	RFS77	RFS98	RFT16	RFT59	RFT83	RFU07	RFU43	RFV14	RFV96	RFX51
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	74600	49300	107000	81300	35800	24500	56200	40800	27000	41900	-	-	-
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	460U	460U	460U	460U	460U	460U	460U	460U	460U	460U	700U	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	700U	700U	700U	700U	700U	1700U	-	-	-	-	-	-	-	-	-	-	-	700U	700U
Ammonia Nitrogen As N	3000	300J	290J	200U	540J	450J	200U	**9000**	**11800**	**9800**	**6900**	**8600**	**7300**	**9600**	**8400**	**11000**	**9200**	**10000**	**5900**	**8700**
Nitrogen, Nitrate as N	10000	79J	40U	40U	40U	40U	40U	540	2100	220	720	3600	4000	2500	4200	3000	3300	2900	160	2200
Nitrogen, Nitrite	1000	15U	15U	54	15U	15U	15U	15U	15U	50	15U	15U	15U	15U	15U	15U	30J	250	15U	96
Sulfate (SO4)	250000	218000	**347000**	**422000**	**478000**	**478000**	**525000**	**1350000**	**1060000**	**1280000**	**1270000**	**1170000**	**1200000**	**1300000**	**1270000**	**1220000**	**1340000**	**1340000**	**1550000**	**1520000**
Sulfide	NA	600U	680U	680U	680U	700U	700U	530U	530U	530U	530U	2100U	2100U	1100U	2100U	2400U	2400U	3000U	600U	4800U
Total Organic Carbon (TOC)	NA	9300	3900	3000	8000	3700	10200	5100	3500	3900	4300	4000	3600	3900	3800	4100	4000	3600	3500	3500
Total Phosphorus as PO4 water	NA	250U	430	250U	250U	-	480	-	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U

	Location ID	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-80R	MW-84RR	MW-84RR
	Field Sample ID	M80RB5X	M80RB6X	M80RB7X	M80RB8X	M80RB9X	M80RC1X	M80RC2X	M80RC3X	M80RC4X	D0925151	M80RC5X	M80RC8X	M80RD1X	M80RD2X	M80RD4X	M80RD7X	M80RE4X	M84RRA1X	M84RRA2X-100505
	Sample Date	05/15/2013	08/23/2013	10/23/2013	03/21/2014	05/09/2014	07/30/2014	10/21/2014	03/26/2015	05/21/2015	09/25/2015	09/25/2015	04/22/2016	10/05/2016	01/06/2017	07/11/2017	04/05/2018	10/14/2019	11/03/2009	05/05/2010
	SDG	RFZ47	RFB97	CS032	CS075	CS096	CS133	CS173	CS213	CS240	CS290	CS290	CS390	CS462	CS496	CS579	CS667	CS937	1169308	RFS41
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59600	84200
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	460U	460U
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	-	1700U	1700U	1700U	-	-	-
Ammonia Nitrogen As N	3000	**9600**	**13400**	**8500**	**8600**	**7300**	**10200**	**6200**	**9600**	**10200**	**3300**	**5600**	**5800**	**4200**	**7900**	**6100**	-	**4700**	200U	400U
Nitrogen, Nitrate as N	10000	5400	620	280	4300	2900	7200	78J	3200	2600	890	910	2300	5200	4300	5000	4500	130	140	77J
Nitrogen, Nitrite	1000	15U	15U	15U	15U	42J	37J	28J	95	250	180	180	39J	15U	200	43J	62	15U	15U	15U
Sulfate (SO4)	250000	**1320000**	**1370000**	**1440000**	**1390000**	**1360000**	**1410000**	**1440000**	**1260000**	**1340000**	**1420000**	**1580000**	**1280000**	**1360000**	**1480000**	**1200000**	**1310000**	**1390000**	**460000**	**259000**
Sulfide	NA	1200U	2500U	600U	1200U	2400U	1200U	600U	2700U	2700U	680U	680U	2800U	1700U	700U	700U	1400U	700U	530U	530U
Total Organic Carbon (TOC)	NA	3800	4200	3300	6400	4400	6000	3400	3300	2500	3500	3400	3200	3300	3700	3800	3500	5300	8900	10800
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	-	250U

	Location ID	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR
	Field Sample ID	M84RRA3X-100721	M84RRA4X	M84RRA5X	M84RRA6X	M84RRA7X	M84RRA8X	M84RRA9X	M84RRB1X	M84RRB2X	M84RRB3X	M84RRB4X	M84RRB5X	M84RRB6X	M84RRB7X	M84RRB8X	M84RRB9X	M84RRC1X	M84RRC2X	M84RRC3X
	Sample Date	07/21/2010	11/02/2010	03/15/2011	05/03/2011	08/10/2011	11/01/2011	02/07/2012	04/17/2012	07/24/2012	11/15/2012	02/14/2013	05/14/2013	08/22/2013	10/25/2013	03/20/2014	05/08/2014	07/29/2014	10/16/2014	03/17/2015
	SDG	RFS56	RFS77	RFS98	RFT16	RFT54	RFT83	RFU07	RFU43	RFV15	RFX06	RFX60	RFZ41	RFB96	CS033	CS074	CS095	CS132	CS172	CS209
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	90700	43400	29800	64600	81100	51200	45900	63400	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	460U	460U	460U	460U	460U	460U	460U	460U	700U	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	-	-	-	-	-	-	-	-	-	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U
Ammonia Nitrogen As N	3000	300J	200U	200U	200U	480J	200U	2000	360J	510J	200U	200U	200U	520J	720	200U	420J	300J	200U	200U
Nitrogen, Nitrate as N	10000	40U	74J	40U	40U	40U	65J	43J	56J	40U	55J	63J	40U	40U	40U	40U	78J	40U	270	40U
Nitrogen, Nitrite	1000	15U	15U	15U	15U	75U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U
Sulfate (SO4)	250000	123000	**916000**	**751000**	**656000**	**349000**	**402000**	**537000**	**521000**	**313000**	**726000**	**309000**	**591000**	**364000**	**334000**	**307000**	**468000**	**372000**	**400000**	172000
Sulfide	NA	530U	530U	530U	530U	530U	770J	600U	600U	600U	600U	600J	600U	600U	600U	600U	600U	600U	600U	680U
Total Organic Carbon (TOC)	NA	7700	8600	6900	10100	10000	8600	6300	8700	11700	10400	7000	11500	13100	13300	13200	10000	14600	10100	6600
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	250U	290J	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quar
J- - Analyte concentration biased low
- Indicates the parameter was not analyzed or was rejected

Table 5a
MNA Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-84RR	MW-86R	MW-86R
	Field Sample ID	M84RRC4X	M84RRC5X	M84RRC6X	M84RRC7X	M84RRC8X	M84RRC9X	D1004161	M84RRD1X	M84RRD2X	M84RRD3X	M84RRD4X	M84RRD5X	M84RRD6X	M84RRD7X	M84RRD8X	M84RRD9X	M84RRE4X	M86RA1X	M86RA2X-100505
	Sample Date	05/20/2015	09/23/2015	11/06/2015	01/21/2016	04/19/2016	06/28/2016	10/04/2016	10/04/2016	01/03/2017	04/11/2017	07/06/2017	10/03/2017	01/19/2018	04/03/2018	07/10/2018	11/09/2018	10/15/2019	11/05/2009	05/05/2010
	SDG	CS239	CS289	CS310	CS345	CS387	CS421	CS461	CS461	CS494	CS540	CS577	CS609	CS633	CS665	CS709	CS755	CS938	1169793	RFS41
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	316000	297000
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	460U	460U
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	700U	700U	700U	700U	700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	2600U	-	-
Ammonia Nitrogen As N	3000	200U	510J	200U	200U	200U	200U	570J	200U	280J	600U	440J	460J	-	-	540J	300J	1600	**11800**	2300
Nitrogen, Nitrate as N	10000	45J	40U	120	54J	72J	110	40U	40U	40U	250	40U	46J	78J	40U	56J	40U	40U	40U	40U
Nitrogen, Nitrite	1000	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	17J	15U	15U	15U	15U	15U	15U	15U	15U
Sulfate (SO4)	250000	**524000**	**312000**	-	**836000**	**947000**	**466000**	**303000**	**306000**	**493000**	**417000**	**477000**	**429000**	**532000**	**476000**	**459000**	**471000**	**335000J**	**722000**	**851000**
Sulfide	NA	680U	680U	680U	680U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	530U	530U
Total Organic Carbon (TOC)	NA	7500	11400	9300	8500	7900	11500	9000	9000	13200	10600	14400	15900	8900	9600	12100	12300	14000	18400	15100
Total Phosphorus as PO4 water	NA	250U	280J	250U	250U	-	250U	250U	250U	400	250U	380	250U	250U	250U	430	250U	570	-	250U

	Location ID	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R
	Field Sample ID	M86RA3X-100721	M86RA4X	M86RA5X	M86RA6X	M86RA7X	M86RA8X	M86RA9X	M86RB1X	M86RB2X	M86RB3X	M86RB4X	M86RB5X	M86RB6X	M86RB7X	M86RB8X	M86RB9X	M86RC1X	M86RC2X	M86RC3X
	Sample Date	07/21/2010	11/02/2010	03/15/2011	05/03/2011	08/10/2011	11/01/2011	02/07/2012	04/17/2012	07/24/2012	10/25/2012	02/14/2013	05/14/2013	08/22/2013	10/25/2013	03/20/2014	05/08/2014	07/29/2014	10/16/2014	03/17/2015
	SDG	RFS56	RFS77	RFS98	RFT16	RFT54	RFT83	RFU07	RFU43	RFV15	RFV96	RFX60	RFZ41	RFB96	CS033	CS074	CS095	CS132	CS172	CS209
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	295000	219000	160000	162000	210000	197000	226000	222000	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	460U	460U	460U	460U	460U	460U	460U	460U	700U	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	-	-	-	-	-	-	-	-	-	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U
Ammonia Nitrogen As N	3000	**4900**	**3500**	200U	200U	**3400**	1400	200U	2600	**3400**	**10300**	200U	1300	2200	2100	200U	390J	390J	**5600**	200U
Nitrogen, Nitrate as N	10000	40U	160	210	410	650	900	760	820	1100	1200	190	730	770	1300	40U	330	390	830	200
Nitrogen, Nitrite	1000	17J	15U	15U	15U	15U	48J	15U	39J	15U	15U	15U	43J	190	270	15U	15U	15U	29J	15U
Sulfate (SO4)	250000	**463000**	**660000**	**996000**	**886000**	**547000**	**739000**	**807000**	10000U	**622000**	**440000**	**447000**	**677000**	**497000**	**465000**	221000	**480000**	**432000**	**505000**	**266000**
Sulfide	NA	530U	530U	530U	530U	530U	530U	600U	600U	600U	600U	600U	600U	600U	600U	600U	600U	600U	600U	680U
Total Organic Carbon (TOC)	NA	13900	9700	7200	7400	10300	9600	10100	11100	11800	11900	4300	9200	10600	11200	5600	5500	8300	8600	4100
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U

	Location ID	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-86R	MW-0091R	MW-0091R	MW-91R
	Field Sample ID	M86RC4X	M86RC5X	M86RC6X	M86RC7X	M86RC8X	M86RC9X	M86RD1X	M86RD2X	M86RD3X	M86RD4X	M86RD5X	M86RD6X	M86RD7X	M86RD8X	M86RD9X	M86RE4X	M091RA1X	M091RA2X	D0128161
	Sample Date	05/20/2015	09/23/2015	11/06/2015	01/21/2016	04/19/2016	06/28/2016	10/04/2016	01/03/2017	04/11/2017	07/06/2017	10/03/2017	01/11/2018	04/03/2018	07/06/2018	11/12/2018	10/18/2019	12/18/2015	01/28/2016	01/28/2016
	SDG	CS239	CS289	CS310	CS345	CS387	CS422	CS461	CS494	CS540	CS577	CS609	CS630	CS665	CS708	CS756	CS941	CS332	CS347	CS347
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	700U	700U	700U	700U	700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	2600U	700U	700U	700U
Ammonia Nitrogen As N	3000	200U	1100	200U	200U	220J	280J	2100	200U	200U	310J	520J	250U	-	-	760	1600	**8600**	**11300J**	**5000J**
Nitrogen, Nitrate as N	10000	320	740	260	230	320	330	640	43J	150	240	240	170	190	270	380	40U	40U	40U	40U
Nitrogen, Nitrite	1000	15U	39J	15U	15U	15U	15U	17J	15U	15U	15U	15U	38J	15U	15U	15U	15U	91	27J	25J
Sulfate (SO4)	250000	**731000**	**672000**	-	**885000**	**1060000**	**1020000**	**770000**	**375000**	**669000**	**832000**	**930000**	**960000**	**582000**	**816000**	**583000**	**580000J**	110000	94000	95200
Sulfide	NA	680U	680U	680U	680U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	680U	680U	680U
Total Organic Carbon (TOC)	NA	5200	9800	6100	5500	5000	3000	9700	5200	4600	7300	8900	6600	4700	8200	6400	11900	13300	13000	12500
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	-	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	810	250U	250U

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quar
J- - Analyte concentration biased low
- Indicates the parameter was not analyzed or was rejected

Table 5a
MNA Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-0091R	MW-0091R	MW-91R	MW-91R	MW-0091R	MW-91R	MW-91R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0091R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-92R	MW-92R
	Field Sample ID	M091RA3X	M091RA4X	M091RA5X	M091RA6X	M091RA7X	D0707171	M91RA8X	M091RA9X	M091RB1X	M091RB2X	M091RB3X	M091RB4X	M091RB5X	M091RB6X	M091RB7X	M091RB8X	M091RB9X	M091RC1X	M091RC2X	M091RC3X	M091RC4X	M092RA1X	M092RA2X	M092RA3X	M092RA4X	M092RA5X	M092RA6X
	Sample Date	04/20/2016	06/30/2016	10/07/2016	01/10/2017	04/11/2017	07/07/2017	07/07/2017	10/06/2017	01/12/2018	04/06/2018	07/06/2018	11/12/2018	01/16/2019	04/16/2019	07/16/2019	10/18/2019	01/17/2020	04/17/2020	07/23/2020	10/09/2020	01/21/2021	12/18/2015	01/28/2016	04/20/2016	06/30/2016	10/07/2016	01/10/2017
	SDG	CS388	CS423	CS464	CS497	CS540	CS578	CS578	CS612	CS631	CS668	CS708	CS756	CS784	CS840	CS898	CS941	CS982	CT044	410-8589-1	1	1	CS332	CS347	CS388	CS423	CS464	CS497
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300000	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	2600UJ	2600U	2600U	2600U	8000U	8000U	8000U	700U	700U	700U	1700U	1700U	1700U
Ammonia Nitrogen As N	3000	**10900**	**8300**	2900	**8200**	**13300**	**8200**	**8400**	**10200**	-	-	-	**8300**	**6600**	**11400**	**8700**	**15500**	**10300**	**10300**	**8800**	2300	**9700**	**18800**	**18800**	**16200**	**8000**	**16400**	**18200**
Nitrogen, Nitrate as N	10000	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	110	690	40U	40U	44J	40U	40UJ	40U	40U	40U	40U	40U	40U
Nitrogen, Nitrite	1000	26J	32J	18J	24J	92	35J	39J	17J	15U	15U	20J	34J	20J	39J	15U	25J	15U	52J-	75U	18J	15U	75U	45J	31J	48J	45J	51
Sulfate (SO4)	250000	91900	85300	72900	199000	64900	53900	56500	62200	56900	55700	40400	26800	26200J	25000	19100J	10000UJ	13300J	20000UJ	10000UJ	20000U	12000J	50000U	25000U	50000U	50000U	125000U	50000U
Sulfide	NA	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	1400U	700U	2800U	700U	700U	700U	700U	700U	700U	930J	680U	700U	700U	880J	700U
Total Organic Carbon (TOC)	NA	11800	12200	13200	14000	14100	14400	14400	13400	12500	13500	13600	13800	13700	10100J+	14600	19600	15000	14600	-	-	-	76700	69800	55500	57800	64800	64600
Total Phosphorus as PO4 water	NA	250U	250U	280J	250U	250U	350	460	250U	250U	340	250U	250U	250U	250U	250UJ	250U	250U	250U	-	-	-	650	620	250U	780	350	360

	Location ID	MW-0092R	MW-92R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0092R	MW-0093R	MW-0093R	MW-0093R	MW-0093R	MW-93R	MW-93R	MW-0093R	MW-93R	MW-0093R	MW-0093R	MW-0093R
	Field Sample ID	M092RA7X	M92RA8X	M092RA9X	M092RB1X	M092RB2X	D0706181	M092RB3X	M092RB4X	M092RB5X	M092RB6X	M092RB7X	M092RB8X	M092RB9X	M092RC1X	M092RC2X	M092RC3X	M093RA1X	M093RA2X	M093RA3X	M093RA4X	M093RA5X	M093RA6X	M093RA7X	M93RA8X	D1006171	M093RA9X	M093RB1X
	Sample Date	04/07/2017	07/07/2017	10/06/2017	01/12/2018	04/06/2018	07/06/2018	07/06/2018	11/14/2018	01/17/2019	04/16/2019	07/16/2019	10/18/2019	01/17/2020	04/16/2020	07/23/2020	10/09/2020	12/18/2015	01/29/2016	04/20/2016	06/30/2016	10/07/2016	01/10/2017	04/07/2017	07/07/2017	10/06/2017	10/06/2017	01/12/2018
	SDG	CS539	CS578	CS612	CS631	CS668	CS708	CS708	CS758	CS785	CS840	CS898	CS941	CS982	CT043	410-8589-1	1	CS332	CS348	CS388	CS423	CS464	CS497	CS539	CS578	CS612	CS612	CS631
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	740000	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	2600UJ	2600U	2600U	2600U	8000U	8000U	700U	700U	700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U
Ammonia Nitrogen As N	3000	**16900**	**17000**	**18000**	-	-	-	-	**15400**	**14800**	**15200**	**18800**	**15800**	**17400**	**14100**	**14000**	**14000**	**8600**	1400	**10500**	**9500**	200U	**5700**	1700	**5000**	**25700**	**5000**	-
Nitrogen, Nitrate as N	10000	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	41J	40U	40U	40UJ	40U	40U	340	40U	40U	40U	40U	540	40U	40U	40U	500
Nitrogen, Nitrite	1000	160	74	16J	28J	15U	15U	15U	15U	15U	58	15U	15U	15U	15U	75U	15U	120	180	68	15U	29J	30J	580	48J	23J	24J	130
Sulfate (SO4)	250000	50000U	25000U	25000U	50000U	20000U	50000U	50000U	4000U	10000U	10000U	4000UJ	10000UJ	8000UJ	20000UJ	20000UJ	20000U	42700	10000U	12500U	25000U	25000U	10000U	10000U	25000U	**621000**	25000U	10000U
Sulfide	NA	700U	700U	700U	700U	700U	1400U	1400U	700U	700U	1200J	700U	700U	700U	1400UJ	700U	700U	720J	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U
Total Organic Carbon (TOC)	NA	59800	62100	56800	54900	56100	50500	50900	55600	46200	4000J+	46900	54800	46800	46600	-	-	34700	14300	38000	35300	30500	33100	10300	30300	26600	26600	18400
Total Phosphorus as PO4 water	NA	280J	1300	250U	250U	1800	1800	1300	810	900	250U	820J	1200	820	700	-	-	250U	250U	250U	250U	250U	250U	250U	330	270J	330	250U

	Location ID	MW-0093R	MW-0093R	MW-0093R	MW-0093R	MW-0093R	MW-0093R	MW-0093R	MW-0093R	MW-0093R	MW-0093R	MW-0093R
	Field Sample ID	M093RB2X	M093RB3X	M093RB4X	M093RB5X	M093RB6X	M093RB7X	M093RB8X	M093RB9X	M093RC1X	M093RC2X	M093RC3X
	Sample Date	04/06/2018	07/06/2018	11/13/2018	01/17/2019	04/17/2019	07/18/2019	10/15/2019	01/22/2020	04/17/2020	07/23/2020	10/09/2020
	SDG	CS668	CS708	CS757	CS785	CS841	CS899	CS938	CS985	CT044	410-8589-1	1
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	260000
ALKALINITY, PHENOLPHTHALEIN	NA	1700U	1700U	1700U	1700U	1700U	2600UJ	2600U	2600U	2600U	8000U	8000U
Ammonia Nitrogen As N	3000	-	-	**3600**	**5000**	**5300**	**5100**	**5700**	**5500**	**5000**	**5300**	**4600**
Nitrogen, Nitrate as N	10000	40U	40U	40U	40U	40U	40U	40U	40U	40U	140J	40U
Nitrogen, Nitrite	1000	40J	15U	58	15U	15U	15U	15U	15U	15U	75U	15U
Sulfate (SO4)	250000	4000U	5000U	27400	5000U	17100J	10000UJ	11200UJ	13000J	20000UJ	10000UJ	20000U
Sulfide	NA	700U	700U	700U	1400U	700U	1400U	700U	700U	700U	700U	700U
Total Organic Carbon (TOC)	NA	31300	24200	16100	21600	20400	23400	25700	27200	25700	-	-
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	250U	250UJ	250U	250U	250U	-	-

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample quar
J- - Analyte concentration biased low
- Indicates the parameter was not analyzed or was rejected

Table 5b
MNA Parameter Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R
	Field Sample ID	M11RA1X	M11RA2X-100505	M11RA3X	D0505111	M11RA4X	M11RA5X	M11RA6X	M11RA7X	M11RA8X	M11RA9X	M11RB1X	M11RB2X	M11RB3X	M11RB4X	M11RB5X	M11RB6X	M11RB7X	M11RB8X	M11RB9X	M11RC1X	M11RC2X	M11RC3X	M11RC4X	M11RC5X
	Sample Date	11/04/2009	05/05/2010	10/12/2010	05/05/2011	05/05/2011	08/12/2011	11/08/2011	02/09/2012	04/19/2012	07/18/2012	10/23/2012	02/12/2013	05/16/2013	08/20/2013	10/22/2013	03/25/2014	05/13/2014	07/31/2014	10/22/2014	03/19/2015	05/21/2015	09/29/2015	11/11/2015	02/25/2016
	SDG	1169567	RFS41	RFS73	RFT18	RFT18	RFT58	RFT84	RFU09	RFU45	RFV13	RFV90	RFX54	RFZ50	RFB95	CS031	CS076	CS097	CS134	CS175	CS210	CS241	CS291	CS312	CS363
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	155000	209000	191000	154000	150000	118000	138000	134000	162000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	460U	460U	460U	460U	460U	460U	460U	460U	460U	700U	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	-	-	-	-	-	-	-	-	-	-	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U
Ammonia Nitrogen As N	3000	2100	2600	2700	2400	2400	**5600**	2700	**11000**	**7400**	**4900**	**3100**	**11600**	**5900**	**3300**	**3300**	**3600**	**5900**	**4200**	2500	**4000**	**3500**	**4200**	**4000**	**4200**
Nitrogen, Nitrate as N	10000	40U	40U	800U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U
Nitrogen, Nitrite	1000	15U	120	130	110	100	15U	100	84	98	250	200	110	130	100	74	170	120	89	170	140	300	120	59	110
Sulfate (SO4)	250000	12500U	104000	30100	12500J	12200J	10000U	5000U	31800	86900	29500	10000U	32500	28600	24000	10000U	12300	15100	7800J	10000U	21900J	11500	10000U	10000U	27900
Sulfide	NA	1100U	530U	530U	530U	530U	530U	530U	600U	600U	600U	600U	600U	600U	600U	600U	600U	600U	600U	1500J	680U	680U	680U	680U	700U
Total Organic Carbon (TOC)	NA	6900	10300	8700	7000	6900	6600	5200	5700	9500	6300	5600	6200	5500	9000	7300	9400	7600	7800	7400	5900	6300	5700	6800	-
Total Phosphorus as PO4 water	NA	-	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	270J	250U	250U	250U	250U	250U	460	250U	250U

	Location ID	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-11R	MW-300	MW-300	MW-300	MW-300
	Field Sample ID	M11RC6X	M11RC7X	M11RC8X	M11RC9X	M11RD1X	M11RD2X	M11RD3X	M11RD4X	M11RD5X	M11RD6X	M11RD7X	M11RD8X	M11RD9X	M11RE1X	M11RE2X	M11RE3X	M11RE4X	M11RE5X	M11RE6X	M11RE7X	M300A1X	100505	100505	M300A3X
	Sample Date	04/21/2016	07/06/2016	10/06/2016	01/05/2017	04/14/2017	07/14/2017	10/04/2017	01/19/2018	04/04/2018	08/07/2018	11/19/2018	01/25/2019	04/19/2019	07/19/2019	10/06/2019	01/22/2020	04/09/2020	07/21/2020	10/06/2020	01/22/2021	11/03/2009	05/05/2010	05/05/2010	12/18/2015
	SDG	CS389	CS424	CS463	CS495	CS543	CS580	CS610	CS633	CS666	CS724	CS761	CS788	CS843	CS901	CS935	CS985	CT039	410-8302-1	410-16246-1	410-27350-1	1169308	RFS41	RFS41	CS332
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	198000	464000	450000	-
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	460U	460U	460U	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120000	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	2600UJ	2600U	2600U	2600U	8000U	8000U	8000U	-	-	-	700U
Ammonia Nitrogen As N	3000	**7100**	**8500**	**3700**	**7900**	**4200**	**6500**	**4300**	-	-	**10800**	**7800**	**4500**	**10200**	**5300**	**4300**	**8200**	**10000**	**4100**	**3700**	2600	210J	650	520J	280J
Nitrogen, Nitrate as N	10000	40U	530	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40UJ	40UJ	40UJ	40U	40U	40U	40U
Nitrogen, Nitrite	1000	93	15U	39J	95	220	100	34J	57	110	63	15U	59	15U	17J	15U	26J	52	60	32J	37J	45J	15U	15U	96
Sulfate (SO4)	250000	14100	10000U	10000U	69200	36600	10000U	5000U	11100	35000	4000U	66400	114000	122000	201000J	4300UJ	22200J	**281000J**	35000J	8000UJ	65000J	223000	147000	155000	218000
Sulfide	NA	700U	700U	700U	700U	700U	700U	700U	1400U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	530U	530U	530U	680U
Total Organic Carbon (TOC)	NA	4200	5400	5400	8600	8100	6100	6300	5900	5300	6200	17200	9800	8400	24500	7000	6200	12400	-	-	-	20200	38900	35600	4000
Total Phosphorus as PO4 water	NA	250U	250U	250U	280J	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	-	-	-	-	250U	250U	430

	Location ID	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-300	MW-301	MW-301	MW-301
	Field Sample ID	M300A4X	M300A5X	M300A6X	M300A7X	M300A8X	M300A9X	M300B1X	M300B2X	M300B3X	M300B4X	M300B5X	M300B6X	M300B7X	M300B8X	M300B9X	M300C1X	M300C2X	M300C3X	M300C4X	M300C5X	M300C6X	M301A1X	100507	M301A3X
	Sample Date	01/29/2016	04/20/2016	06/30/2016	10/07/2016	01/10/2017	04/07/2017	07/07/2017	10/06/2017	01/12/2018	04/06/2018	07/03/2018	11/13/2018	01/24/2019	04/17/2019	07/18/2019	10/15/2019	01/22/2020	04/10/2020	07/22/2020	10/07/2020	01/22/2021	11/03/2009	05/07/2010	10/12/2010
	SDG	CS348	CS388	CS423	CS464	CS497	CS539	CS578	CS612	CS631	CS668	CS707	CS757	CS787	CS841	CS899	CS938	CS985	CT040	410-8469-1	410-16419-1	410-27350-1	1169308	RFS41	RFS73
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	460U	460U	5600
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	460U	460U	460U
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	700U	700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	2600UJ	2600U	2600U	2600U	8000U	8000U	8000U	-	-	-
Ammonia Nitrogen As N	3000	200U	200U	250J	200U	400J	200U	200U	250U	-	-	-	250U	480J	450J	900	440J	250U	250U	1300U	360U	250U	**21800**	**19200**	**20400**
Nitrogen, Nitrate as N	10000	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40UJ	40UJ	40UJ	40U	40U	2000U
Nitrogen, Nitrite	1000	15U	15U	45J	15U	15J	68	15U	15U	15U	15U	15U	29J	15U	15U	15U	15UJ	15U	15U	15U	15U	15UJ	520	15U	150
Sulfate (SO4)	250000	223000	207000	218000	204000	69700	198000	174000	203000	199000	210000	200000	156000	208000	221000	181000J	246000J	213000J	236000J	240000J	180000J	190000J	**927000**	**750000**	**628000**
Sulfide	NA	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	530U	2400	1300J
Total Organic Carbon (TOC)	NA	3400	3300	2800	3700	4500	3400	3700	3200	3000	4300	3100	5800	6300	4000	7200	5500	2900	2700	-	-	-	2700	1900	2600
Total Phosphorus as PO4 water	NA	250U	250U	250U	330	330	250U	250U	250U	270J	260J	250U	250U	250U	620	250UJ	310	250U	250U	-	-	-	-	250U	250U

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample
J- - Analyte concentration biased low
- Indicates the parameter was not analyzed or was rejected

Table 5b
MNA Parameter Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301
	Field Sample ID	M301A4X	M301A5X	M301A6X	M301A7X	M301A8X	M301A9X	M301B1X	M301B2X	M301B3X	M301B3X	M301B5X	M301B6X	M301B7X	D0730141	M301B8X	M301B9X	M301C1X	M301C2X	M301C3X	M301C4X	M301C5X	M301C6X	M301C7X	M301C8X
	Sample Date	05/04/2011	08/12/2011	11/08/2011	02/09/2012	04/19/2012	07/20/2012	10/18/2012	02/07/2013	05/15/2013	05/15/2013	10/23/2013	03/21/2014	05/09/2014	07/30/2014	07/30/2014	10/21/2014	03/26/2015	05/21/2015	09/25/2015	11/11/2015	02/26/2016	04/22/2016	07/12/2016	10/05/2016
	SDG	RFT17	RFT58	RFT84	RFU09	RFU45	RFV14	RFV80	RFX51	CS003	RFZ47	CS032	CS075	CS096	CS133	CS133	CS173	CS213	CS240	CS290	CS312	CS364	CS390	CS425	CS462
Parameter Name	**NJDEP GWQS**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Alkalinity to pH 4.5	NA	460U	460U	460U	460U	460U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	460U	460U	460U	460U	460U	700U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	-	-	-	-	-	-	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	1700U	-
Ammonia Nitrogen As N	3000	**17600**	**18900**	**19400**	**16000**	**16400**	**12000**	**20000**	**17100**	**17700**	**16300**	**17300**	**12700**	**12700**	**14700**	**15300**	**16000**	**9900**	**13600**	**12400**	**14100**	**9800**	**14000**	**14300**	**12700**
Nitrogen, Nitrate as N	10000	40U	40U	40U	40U	40U	40U	49J	40U	400U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U
Nitrogen, Nitrite	1000	120	900	110	110	100	15U	220	130	270	130	150	120	150	150	150	98	15U	410	330	50	84	72	15U	22J
Sulfate (SO4)	250000	**899000**	**763000**	**701000**	**743000**	**473000**	**663000**	**555000**	**645000**	**594000**	**522000**	**526000**	**641000**	**442000**	**442000**	**475000**	**462000**	**500000**	**418000**	**439000**	**397000**	**606000**	**480000**	**446000**	**382000**
Sulfide	NA	600J	650J	900J	600U	600U	640J	600U	780J	940J	600U	600U	600U	600U	600U	600U	600U	680U	680U	680U	680U	700U	700U	700U	700U
Total Organic Carbon (TOC)	NA	1900	2100	670J	1600	950J	980J	790J	1500	2300	500U	1000	3400	2300	4000	3600	1600	1300	970J	1500	1600	2600	1400	1100	910J
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U

	Location ID	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-301	MW-302
	Field Sample ID	M301C9X	M301D1X	M301D2X	M301D3X	M301D4X	M301D5X	M301D6X	M301D7X	D0125191	M301D8X	D0412191	M301D9X	D0712191	M301E1X	D1018191	M301E2X	D0123201X	M301E3X	D0420201X	M301E4X	M301E5X	D1007201X	M301E6X	M302A1X
	Sample Date	01/06/2017	04/14/2017	07/11/2017	10/05/2017	01/11/2018	04/05/2018	08/07/2018	11/14/2018	01/25/2019	01/25/2019	04/12/2019	04/12/2019	07/12/2019	07/12/2019	10/18/2019	10/18/2019	01/23/2020	01/23/2020	04/20/2020	04/20/2020	07/16/2020	10/07/2020	10/07/2020	11/04/2009
	SDG	CS496	CS543	CS579	CS611	CS630	CS667	CS724	CS758	CS788	CS788	CS838	CS838	CS896	CS896	CS941	CS941	CS987	CS987	CT045	CT045	410-7999-1	410-16419-1	410-16419-1	1169567
Parameter Name	**NJDEP GWQS**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	247000
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	460U
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700UJ	1700UJ	2600U	2600U	2600U	2600U	2600U	2600U	8000U	8000U	8000U	-
Ammonia Nitrogen As N	3000	**12000**	-	**16200**	**12900**	**12600**	-	**11100**	**16000**	**14600J+**	**19300J+**	**16700**	**16300**	**13600**	**13200**	**12000**	**12600**	**11900**	**11700**	**10500**	**10900**	**14000**	2400J	**12000J**	-
Nitrogen, Nitrate as N	10000	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40U	40UJ	40UJ	40UJ	40U
Nitrogen, Nitrite	1000	35J	120	71	34J	32J	65	25J	27J	46J	47J	49J	46J	17J	27J	74J	120J	150	150	15U	15U	98	75U	40J	15U
Sulfate (SO4)	250000	**610000**	**582000**	**433000**	**372000**	**480000**	**427000**	**254000**	**348000**	**388000**	**386000**	**493000**	**481000**	**379000J**	**384000J**	**481000J**	**523000J**	**477000J**	**423000J**	**586000J**	**421000J**	**870000J**	**650000J**	**490000J**	500000U
Sulfide	NA	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	1500UJ	700U	7000U	7000U	700U	700U	6200J	700U	700U	10600U
Total Organic Carbon (TOC)	NA	2900	2500	2100	1400	1800	1800	2500	2700	2100	2100	820J	930J	2000	2100	2800J	5200J	1900J	2500J	2400	2300	-	-	-	13900
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	1300U	250U	250U	250U	250U	-	-	-	-

	Location ID	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302
	Field Sample ID	100505	M302A4X	D0812111	M302A5X	M302A6X	M302A7X	M302A8X	M302A9X	M302B1X	M302B2X	M302B3X	M302B4X	M302B5X	M302B6X	M302B7X	M302B8X	M302B9X	M302C1X	M302C2X	M302C3X	M302C4X	M302C5X	M302C6X	M302C7X
	Sample Date	05/05/2010	05/05/2011	08/12/2011	08/12/2011	11/08/2011	02/09/2012	04/18/2012	07/18/2012	10/23/2012	03/15/2013	05/16/2013	08/20/2013	10/22/2013	03/25/2014	05/13/2014	07/31/2014	10/22/2014	03/19/2015	05/22/2015	09/29/2015	11/13/2015	02/25/2016	04/21/2016	07/06/2016
	SDG	RFS41	RFT18	RFT58	RFT58	RFT84	RFU09	RFU44	RFV13	RFV90	RFY11	RFZ50	RFB95	CS031	CS076	CS097	CS134	CS175	CS210	CS241	CS291	CS315	CS363	CS389	CS424
Parameter Name	**NJDEP GWQS**	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Alkalinity to pH 4.5	NA	-	178000	460U	-	306000	300000	350000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	-	460U	460U	-	460U	460U	460U	700U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	38600	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	-	-	-	-	-	-	-	-	700U	700U	700U	700U	700U	700U	-	700U	700U	700U	700U	700U	700U	700U	-	1700U
Ammonia Nitrogen As N	3000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Nitrate as N	10000	40U	480	40U	100	380	72J	120	160	420	670	1200	270	1000	900	1000	770	720	2700	2100	800	790	930	780	1400
Nitrogen, Nitrite	1000	15U	15U	15U	15U	15U	15U	15U	15U	15U	17J	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15J	15U	15U
Sulfate (SO4)	250000	-	201000	92800	-	125000U	175000	107000	166000	**566000**	**395000**	160000	**464000**	**698000**	106000	-	**480000**	**971000**	**311000**	**349000**	**862000**	**856000**	**292000**	**305000**	**400000**
Sulfide	NA	-	1100U	530U	-	4200U	1200U	1200U	600U	600U	600U	600U	600U	2400U	600U	-	600U	600U	680U	680U	680U	680U	700U	5600U	700U
Total Organic Carbon (TOC)	NA	-	5100	4900	5900	4200	3900	4200	3600	3600	3400	2700	4600	5400	1400	5200	4800	3100	1900	1900	3200	3600	2800	3500	2200
Total Phosphorus as PO4 water	NA	-	250U	250U	-	820	250U	250U	250U	250U	250U	250U	250U	250U	250U	-	1200	250U	250U	250U	250U	320	250U	370	250U

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample
J- - Analyte concentration biased low
- Indicates the parameter was not analyzed or was rejected

Table 5b
MNA Parameter Results in Groundwater - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

	Location ID	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-302	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303
	Field Sample ID	M302C8X	M302C9X	M302D3X	M302D4X	M302D5X	M302D6X	M302D7X	M302D8X	M302D9X	M302E1X	M302E2X	M302E3X	M302E4X	M302E5X	M302E6X	M302E7X	M303A1X	M303A2X-100505	M303A3X	M303A4X	M303A5X	M303A6X	M303A7X	M303A8X
	Sample Date	10/06/2016	01/05/2017	07/14/2017	10/04/2017	01/10/2018	04/04/2018	07/11/2018	11/19/2018	01/23/2019	04/18/2019	07/19/2019	10/18/2019	01/16/2020	04/21/2020	07/20/2020	10/06/2020	11/04/2009	05/05/2010	10/12/2010	05/05/2011	08/12/2011	11/08/2011	02/09/2012	04/18/2012
	SDG	CS463	CS495	CS580	CS610	CS629	CS666	CS711	CS760	CS786	CS842	CS901	CS941	CS981	CT046	410-8203-1	410-16246-1	1169567	RFS41	RFS73	RFT18	RFT58	RFT84	RFU09	RFU44
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5800	2500	6700	460U	460U	460U	460U	460U
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	460U	460U	460U	460U	460U	460U	460U	460U
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	62000	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	4500J	2600UJ	2600U	2600U	2600U	8000U	8000U	-	-	-	-	-	-	-	-
Ammonia Nitrogen As N	3000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Nitrate as N	10000	860	830	1100	1100	1100	290	5200	1700	4500	250J	2200	310	780	2000	2000J	3100J	220	40U	400U	40U	40U	40U	40U	250
Nitrogen, Nitrite	1000	15U	15U	15U	15U	15U	40J	110	40J	15U	76	15U	15U	15U	15U	15U	15U	15U	100	140	79	15U	110	63	15U
Sulfate (SO4)	250000	**844000**	**608000**	**259000**	**620000**	**642000**	166000	**279000**	**646000**	153000J-	146000	194000J	**597000J**	**436000J**	144000J	**420000J**	**520000J**	105000	128000	116000	114000	96000	92600	68000	56800
Sulfide	NA	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	530U	530U	530U	530U	530U	530U	600U	600U
Total Organic Carbon (TOC)	NA	3700	3500	2700	2900	3500	4300	4700	3900	4500	6700	7700	5300	3900	3900	-	-	6200	4600	4600	4300	4500	3900	3700	4300
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	250U	-	-	-	250U	250U	250U	250U	250U	250U	250U

	Location ID	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303
	Field Sample ID	M303A9X	M303B1X	M303B2X	M303B3X	M303B4X	M303B5X	M303B6X	M303B7X	M303B8X	M303B9X	M303C1X	M303C2X	M303C3X	M303C4X	M303C5X	M303C6X	M303C7X	M303C8X	M303C9X	M303D3X	M303D4X	M303D5X	M303D6X	M303D7X
	Sample Date	07/18/2012	10/23/2012	02/12/2013	05/16/2013	08/20/2013	10/22/2013	03/25/2014	05/13/2014	07/31/2014	10/22/2014	03/19/2015	05/22/2015	09/29/2015	11/12/2015	02/25/2016	04/21/2016	07/12/2016	10/06/2016	01/05/2017	07/14/2017	10/04/2017	01/10/2018	04/04/2018	07/11/2018
	SDG	RFV13	RFV90	RFX54	RFZ50	RFB95	CS031	CS076	CS097	CS134	CS175	CS210	CS241	CS291	CS313	CS363	CS389	CS425	CS463	CS495	CS580	CS610	CS629	CS666	CS711
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	700U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALKALINITY, PHENOLPHTHALEIN	NA	-	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U	1700U
Ammonia Nitrogen As N	3000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Nitrogen, Nitrate as N	10000	180	250	110	250	42J	310	89J	110	450	530	40U	410	200	150	220	290	670	240	380	610	690	290	280	510
Nitrogen, Nitrite	1000	49J	28J	25J	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U	15U
Sulfate (SO4)	250000	93700	95900	88200	101000	97400	81600	81200	73900	74500	70600	74200	49900	62200	48100	55100	41600	44800	46700	53000	58400	65200	68500	61000	54500
Sulfide	NA	600U	600U	600U	600U	600U	600U	600U	600U	600U	600U	680U	680U	680U	680U	700U	700U	700U	700U	700U	700U	700U	700U	700U	700U
Total Organic Carbon (TOC)	NA	4400	5400	3900	5400	6800	8000	4800	5400	7500	7900	4000	4000	5300	6400	-	2100	3800	9800	4200	5400	5900	4800	3700	4900
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	260J	250U	250U	250U	250U	670	250U	280J	300J	350	290J	250U	250U	760	420	320	250U	250U	250U	250U

	Location ID	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303	MW-303
	Field Sample ID	M303D8X	M303D9X	M303E1X	M303E2X	M303E3X	M303E4X	M303E5X	M303E6X	M303E7X	M303E8X
	Sample Date	11/19/2018	01/23/2019	04/18/2019	07/18/2019	10/17/2019	01/13/2020	04/14/2020	07/16/2020	10/01/2020	01/14/2021
	SDG	CS761	CS786	CS842	CS900	CS939	CS978	CT041	410-7999-1	410-15683-1	410-26408-1
Parameter Name	**NJDEP GWQS**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Alkalinity to pH 4.5	NA	-	-	-	-	-	-	-	-	-	-
Alkalinity to pH 8.3	NA	-	-	-	-	-	-	-	-	-	-
Alkalinity, Bicarbonate as CaCO3	NA	-	-	-	-	-	-	-	-	16000	-
ALKALINITY, PHENOLPHTHALEIN	NA	1700U	1700U	1700U	2600UJ	2600U	2600U	2600U	-	8000U	8000U
Ammonia Nitrogen As N	3000	-	-	-	-	-	-	-	-	-	-
Nitrogen, Nitrate as N	10000	40U	240	280	570	180	210	40U	190J	660J	350UJ
Nitrogen, Nitrite	1000	15U	15U	15UJ	15U	15U	15U	16J	15U	15U	15U
Sulfate (SO4)	250000	66000	68700	55600	58000J	44900J	45000J	36300J	21000J	43000J	47000J
Sulfide	NA	700U	700U	700U	700U	1300J	700U	700U	700U	700U	700U
Total Organic Carbon (TOC)	NA	5700	3900	3300	5700	11100	7000	6800	-	-	-
Total Phosphorus as PO4 water	NA	250U	250U	250U	250U	250U	250U	250U	-	-	-

Notes:
Bold and highlighted indicates exceedance to NJDEP GWQS
NA - No action level limit available for this parameter
U - Analyte not detected at that concentration
J - Analyte concentration estimated
UJ - Analyte not detected above the approximate reported sample
J- - Analyte concentration biased low
- Indicates the parameter was not analyzed or was rejected

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-0076R	08/03/2010 08:12	2.29	5.54	-120.0	8.03	0.10	1.690	NM	92.8
MW-0076R	08/03/2010 08:14	1.21	5.54	127.0	8.12	0.10	1.680	NM	94.0
MW-0076R	08/03/2010 08:16	0.60	5.61	-128.0	8.07	0.10	1.670	NM	72.2
MW-0076R	08/03/2010 08:18	0.22	5.61	-124.0	7.97	0.10	1.670	NM	53.8
MW-0076R	08/03/2010 08:20	0.05	5.68	-125.0	7.93	0.10	1.680	NM	52.3
MW-0076R	08/03/2010 08:22	0.00	5.68	-130.0	7.97	0.10	1.680	NM	48.8
MW-0076R	08/03/2010 08:24	0.00	5.68	-130.0	7.97	0.10	1.680	NM	50.5
MW-0076R	08/03/2010 08:26	0.00	5.68	-132.0	7.99	0.10	1.680	NM	50.9
MW-0076R	08/03/2010 08:28	0.00	5.70	-133.0	8.01	0.10	1.680	NM	45.7
MW-0076R	08/03/2010 08:30	0.00	5.70	-135.0	8.02	0.10	1.680	NM	50.1
MW-0076R	08/03/2010 08:32	0.00	5.70	-138.0	8.04	0.10	1.680	NM	49.2
MW-0076R	08/03/2010 08:34	0.00	5.70	138.0	8.02	0.10	1.680	NM	49.6
MW-0076R	08/03/2010 08:36	0.00	5.72	-135.0	8.01	0.10	1.680	NM	50.1
MW-0076R	08/03/2010 09:17	0.65	5.81	-131.0	5.90	0.10	1.610	NM	133.0
MW-0076R	08/03/2010 11:32	0.14	6.31	-123.0	7.94	0.10	1.670	NM	5.0
MW-0076R	11/01/2010 14:14	4.09	5.59	-83.0	7.08	0.10	1.270	17.60	118.0
MW-0076R	11/01/2010 14:16	2.40	5.59	-66.0	6.99	0.10	1.270	17.60	136.0
MW-0076R	11/01/2010 14:18	0.74	5.58	-59.0	6.93	0.10	1.270	17.60	131.0
MW-0076R	11/01/2010 14:20	0.25	5.58	-53.0	6.85	0.10	1.270	17.40	90.7
MW-0076R	11/01/2010 14:22	0.00	5.60	-48.0	6.78	0.10	1.270	17.00	76.1
MW-0076R	11/01/2010 14:24	0.00	5.60	-46.0	6.75	0.10	1.270	16.80	53.1
MW-0076R	11/01/2010 14:26	0.00	5.63	-45.0	6.73	0.10	1.260	16.90	45.1
MW-0076R	11/01/2010 14:28	0.00	5.63	-44.0	6.71	0.10	1.260	17.00	45.0
MW-0076R	11/01/2010 14:30	0.00	5.63	-42.0	6.69	0.10	1.260	17.00	51.4
MW-0076R	11/01/2010 14:32	0.00	5.63	-40.0	6.67	0.10	1.270	16.80	50.9
MW-0076R	11/01/2010 14:34	0.00	5.63	-38.0	6.65	0.10	1.260	16.90	48.9
MW-0076R	11/01/2010 14:36	0.00	5.63	-38.0	6.65	0.10	1.260	16.80	49.0
MW-0076R	11/01/2010 14:38	0.00	5.63	-36.0	6.64	0.10	1.260	16.70	47.3
MW-0076R	11/01/2010 14:59	1.91	6.51	-39.0	6.77	0.10	1.250	18.90	340.0
MW-0076R	11/02/2010 10:45	0.00	5.76	-61.0	6.40	0.10	1.250	19.00	83.5
MW-0076R	03/14/2011 11:48	3.63	6.99	214.0	5.42	0.06	1.265	7.51	19.6
MW-0076R	03/14/2011 14:01	5.17	4.58	275.0	5.26	0.05	1.097	7.81	2.4
MW-0076R	03/14/2011 15:15	5.28	6.57	132.0	5.47	0.06	1.226	8.05	39.2
MW-0076R	05/03/2011 08:35	8.45	4.61	242.0	5.32	0.08	0.847	13.80	127.4
MW-0076R	05/03/2011 08:37	7.27	NM	255.0	5.30	0.08	0.815	12.46	5.6
MW-0076R	05/03/2011 08:39	6.97	NM	259.0	5.31	0.08	0.807	12.10	3.1
MW-0076R	05/03/2011 08:41	6.88	NM	263.0	5.31	0.08	0.805	12.03	4.6
MW-0076R	05/03/2011 08:43	6.90	NM	266.0	5.31	0.08	0.804	11.95	7.0
MW-0076R	05/03/2011 08:45	6.94	NM	267.0	5.31	0.08	0.807	12.16	6.6
MW-0076R	05/03/2011 08:47	6.88	NM	265.0	5.31	0.08	0.812	12.55	24.4
MW-0076R	05/03/2011 08:49	6.97	NM	265.0	5.31	0.08	0.811	12.27	7.0
MW-0076R	05/03/2011 08:51	6.88	NM	265.0	5.32	0.08	0.813	12.43	5.9
MW-0076R	05/03/2011 08:53	6.89	4.71	268.0	5.32	0.08	0.814	12.48	4.2
MW-0076R	05/03/2011 08:54	6.89	4.71	268.0	5.32	0.05	0.814	12.48	4.2
MW-0076R	05/03/2011 10:03	5.07	4.81	60.0	6.47	0.14	2.095	11.99	127.2
MW-0076R	05/03/2011 13:43	0.34	4.66	46.0	6.22	0.17	2.340	11.20	59.8
MW-0076R	08/15/2011 12:03	0.44	NM	20.0	6.14	0.10	1.610	22.20	9.5
MW-0076R	08/15/2011 12:05	0.42	NM	-2.0	6.22	0.10	1.710	22.10	8.5
MW-0076R	08/15/2011 12:07	0.21	NM	-9.0	6.27	0.10	1.750	22.10	7.6
MW-0076R	08/15/2011 12:09	0.20	NM	-20.0	6.31	0.10	1.790	22.10	6.8
MW-0076R	08/15/2011 12:11	0.26	NM	-29.0	6.36	0.10	1.830	22.10	7.0
MW-0076R	08/15/2011 12:13	0.13	NM	-36.0	6.40	0.10	1.860	22.10	6.7
MW-0076R	08/15/2011 12:15	0.19	NM	-40.0	6.84	0.10	1.890	22.00	6.1
MW-0076R	08/15/2011 12:17	0.11	NM	-42.0	6.45	0.10	1.900	22.00	6.3
MW-0076R	08/15/2011 12:19	0.10	NM	-45.0	6.46	0.10	1.900	22.00	5.9
MW-0076R	08/15/2011 12:21	0.05	NM	-47.0	6.47	0.10	1.910	22.00	5.7
MW-0076R	08/15/2011 12:23	0.03	NM	-49.0	6.48	0.10	1.920	22.00	5.6
MW-0076R	08/15/2011 12:25	0.06	NM	-52.0	6.50	0.10	1.930	22.00	6.0
MW-0076R	08/15/2011 12:27	0.06	NM	-54.0	6.50	0.10	1.940	22.00	5.7
MW-0076R	08/15/2011 12:29	0.00	NM	-55.0	6.51	0.10	1.940	22.00	5.8
MW-0076R	08/15/2011 12:31	0.00	NM	-57.0	6.53	0.00	1.940	22.00	5.9
MW-0076R	08/15/2011 12:33	0.00	4.57	-59.0	6.54	0.10	1.950	22.00	5.8
MW-0076R	08/15/2011 13:09	1.40	6.02	115.0	5.91	0.10	1.450	21.50	55.2
MW-0076R	08/16/2011 11:09	1.42	4.35	-10.0	6.29	0.10	1.780	21.90	18.9
MW-0076R	10/31/2011 15:36	3.91	4.49	105.0	6.15	0.06	1.074	18.55	87.3
MW-0076R	10/31/2011 15:38	2.80	NM	115.0	6.11	0.06	1.058	18.40	18.9
MW-0076R	10/31/2011 15:40	2.62	NM	116.0	6.09	0.06	1.052	18.17	19.3
MW-0076R	10/31/2011 15:42	2.52	NM	117.0	6.09	0.06	1.051	18.13	7.8
MW-0076R	10/31/2011 15:44	2.41	NM	119.0	6.08	0.06	1.045	18.02	8.0
MW-0076R	10/31/2011 15:46	2.45	NM	121.0	6.06	0.06	1.046	17.95	8.6
MW-0076R	10/31/2011 15:48	2.44	4.55	121.0	6.07	0.06	1.047	17.90	7.1

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-0076R	10/31/2011 15:49	2.94	4.55	121.0	6.07	0.06	1.211	17.90	7.1
MW-0076R	10/31/2011 16:34	6.48	5.76	92.0	5.80	0.06	1.211	18.53	40.0
MW-0076R	11/01/2011 13:03	0.89	4.72	-26.0	6.83	0.07	1.439	18.75	28.2
MW-0076R	02/07/2012 08:53	2.73	4.57	114.0	6.32	0.09	1.714	11.49	188.2
MW-0076R	02/07/2012 08:55	-0.03	NM	101.0	6.41	0.12	2.363	9.98	18.7
MW-0076R	02/07/2012 08:58	-0.06	NM	95.0	6.25	0.09	1.689	9.97	19.1
MW-0076R	02/07/2012 09:00	-0.06	NM	107.0	6.09	0.07	1.392	9.57	16.5
MW-0076R	02/07/2012 09:02	-0.07	NM	123.0	5.98	0.06	1.280	9.40	16.6
MW-0076R	02/07/2012 09:04	-0.08	NM	137.0	5.93	0.06	1.246	9.33	27.6
MW-0076R	02/07/2012 09:07	-0.08	NM	146.0	5.90	0.06	1.246	9.41	22.8
MW-0076R	02/07/2012 09:09	-0.08	NM	153.0	5.88	0.06	1.241	9.22	16.3
MW-0076R	02/07/2012 09:11	-0.09	NM	158.0	5.87	0.06	1.236	9.27	13.7
MW-0076R	02/07/2012 09:13	-0.09	NM	162.0	5.86	0.06	1.236	9.25	19.1
MW-0076R	02/07/2012 09:16	-0.09	NM	165.0	5.85	0.06	1.237	9.26	11.3
MW-0076R	02/07/2012 09:18	-0.10	NM	168.0	5.85	0.06	1.241	9.23	17.4
MW-0076R	02/07/2012 09:20	-0.10	NM	170.0	5.85	0.06	1.251	9.35	15.3
MW-0076R	02/07/2012 09:22	-0.11	NM	171.0	5.86	0.06	1.261	9.32	12.6
MW-0076R	02/07/2012 09:25	-0.11	NM	171.0	5.90	0.07	1.426	9.41	10.4
MW-0076R	02/07/2012 09:27	-0.11	NM	167.0	6.00	0.09	1.764	9.68	10.5
MW-0076R	02/07/2012 09:29	-0.12	NM	157.0	6.11	0.10	2.008	9.97	11.0
MW-0076R	02/07/2012 09:31	-0.12	NM	147.0	6.17	0.11	2.096	10.13	8.6
MW-0076R	02/07/2012 09:33	-0.12	NM	138.0	6.19	0.11	2.131	10.28	9.7
MW-0076R	02/07/2012 09:36	-0.12	NM	132.0	6.21	0.11	2.149	10.34	10.5
MW-0076R	02/07/2012 09:38	-0.11	NM	126.0	6.23	0.11	2.213	10.39	9.6
MW-0076R	02/07/2012 09:40	71.87	NM	120.0	6.25	0.12	2.260	10.48	8.2
MW-0076R	02/07/2012 09:42	12.51	5.20	115.0	6.27	0.12	2.296	10.50	9.0
MW-0076R	02/07/2012 09:43	12.51	5.20	115.0	6.27	0.12	2.297	10.50	9.0
MW-0076R	02/07/2012 10:44	2.81	5.84	71.0	6.14	0.11	2.078	11.32	346.8
MW-0076R	02/08/2012 14:07	0.70	5.23	-19.0	6.47	0.10	3.999	11.00	75.3
MW-0076R	04/17/2012 08:38	1.45	5.67	-16.0	6.49	0.12	2.331	17.76	62.8
MW-0076R	04/17/2012 08:41	1.23	NM	-31.0	6.58	0.14	2.680	15.13	48.1
MW-0076R	04/17/2012 08:43	0.88	NM	-38.0	6.61	0.14	2.693	14.07	45.6
MW-0076R	04/17/2012 08:45	0.71	NM	-40.0	6.61	0.14	2.687	13.94	42.9
MW-0076R	04/17/2012 08:48	0.63	NM	-41.0	6.61	0.14	2.680	13.89	44.6
MW-0076R	04/17/2012 08:50	0.59	NM	-41.0	6.61	0.14	2.672	14.15	39.2
MW-0076R	04/17/2012 08:52	0.57	NM	-42.0	6.60	0.14	2.680	14.09	40.0
MW-0076R	04/17/2012 08:55	0.53	NM	-42.0	6.60	0.14	2.684	14.18	43.2
MW-0076R	04/17/2012 08:57	0.50	NM	-42.0	6.60	0.14	2.686	13.99	45.9
MW-0076R	04/17/2012 08:59	0.50	NM	-43.0	6.60	0.14	2.688	14.04	38.3
MW-0076R	04/17/2012 09:02	0.50	NM	-43.0	6.60	0.14	2.697	14.26	38.6
MW-0076R	04/17/2012 09:04	0.51	5.69	-44.0	6.61	0.14	2.717	14.27	40.5
MW-0076R	04/17/2012 09:05	0.51	5.69	-44.0	6.61	0.14	2.717	14.27	40.5
MW-0076R	04/17/2012 09:45	0.82	7.45	-25.0	6.60	0.14	2.654	12.15	1328.0
MW-0076R	04/18/2012 13:10	1.49	5.81	-77.0	6.62	0.18	3.420	11.42	97.2
MW-0076R	07/14/2012 15:19	0.19	4.63	12.0	6.43	0.05	1.023	20.39	11.5
MW-0076R	07/14/2012 15:47	1.92	5.39	61.0	6.26	0.05	1.057	19.53	37.7
MW-0076R	07/15/2012 11:30	3.14	4.59	-61.0	6.96	0.05	0.995	20.72	32.0
MW-0076R	07/19/2012 14:31	1.92	4.55	15.0	6.34	0.05	1.021	23.50	51.4
MW-0076R	07/19/2012 14:33	0.86	NM	16.0	6.58	0.05	1.023	21.30	32.3
MW-0076R	07/19/2012 14:35	0.68	NM	16.0	6.51	0.05	1.019	20.94	16.4
MW-0076R	07/19/2012 14:37	0.59	NM	16.0	6.48	0.05	1.018	20.97	18.6
MW-0076R	07/19/2012 14:39	0.49	NM	16.0	6.46	0.05	1.020	20.91	24.8
MW-0076R	07/19/2012 14:41	0.41	NM	15.0	6.46	0.05	1.019	20.88	12.7
MW-0076R	07/19/2012 14:43	0.36	NM	14.0	6.46	0.05	1.020	20.90	15.0
MW-0076R	07/19/2012 14:45	0.31	NM	13.0	6.46	0.05	1.018	20.99	76.5
MW-0076R	07/19/2012 14:47	0.29	NM	13.0	6.45	0.05	1.021	20.85	13.8
MW-0076R	07/19/2012 14:49	0.27	NM	13.0	6.45	0.05	1.022	20.74	199.4
MW-0076R	07/19/2012 14:51	0.25	NM	14.0	6.45	0.05	1.021	20.82	12.0
MW-0076R	07/19/2012 14:53	0.24	NM	14.0	6.44	0.05	1.023	20.74	12.7
MW-0076R	07/19/2012 14:55	0.23	NM	14.0	6.44	0.05	1.023	20.71	14.0
MW-0076R	07/19/2012 14:57	0.23	NM	15.0	6.43	0.05	1.022	20.76	129.8
MW-0076R	07/19/2012 14:59	0.22	NM	15.0	6.43	0.05	1.023	20.67	27.0
MW-0076R	07/19/2012 15:02	0.21	NM	15.0	6.43	0.05	1.022	20.68	10.5
MW-0076R	07/19/2012 15:04	0.21	NM	16.0	6.43	0.05	1.023	20.64	10.3
MW-0076R	07/19/2012 15:06	0.20	NM	16.0	6.43	0.05	1.023	20.69	13.1
MW-0076R	07/19/2012 15:08	0.20	NM	15.0	6.43	0.05	1.024	20.63	12.2
MW-0076R	07/19/2012 15:10	0.20	NM	15.0	6.43	0.05	1.023	20.61	21.3
MW-0076R	07/19/2012 15:12	0.20	NM	14.0	6.43	0.05	1.023	20.45	11.6
MW-0076R	07/19/2012 15:14	0.19	NM	14.0	6.43	0.05	1.024	20.37	33.0
MW-0076R	07/19/2012 15:16	0.19	NM	13.0	6.43	0.05	1.022	20.44	10.7
MW-0076R	07/19/2012 15:18	0.19	4.63	12.0	6.43	0.05	1.029	20.39	11.5

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-0076R	11/14/2012 13:29	6.10	5.30	69.0	6.83	0.00	1.090	16.90	15.7
MW-0076R	11/14/2012 13:31	5.73	NM	60.0	6.77	0.00	1.090	17.10	15.1
MW-0076R	11/14/2012 13:33	5.48	NM	55.0	6.74	0.00	1.090	17.10	14.3
MW-0076R	11/14/2012 13:35	5.30	NM	51.0	6.70	0.00	1.080	17.10	15.7
MW-0076R	11/14/2012 13:37	5.15	NM	48.0	6.68	0.00	1.090	17.20	26.1
MW-0076R	11/14/2012 13:39	5.08	NM	45.0	6.69	0.00	1.090	17.10	30.1
MW-0076R	11/14/2012 13:41	4.99	NM	42.0	6.67	0.00	1.090	17.10	32.7
MW-0076R	11/14/2012 13:43	4.93	NM	41.0	6.65	0.00	1.080	17.10	33.4
MW-0076R	11/14/2012 13:45	4.93	NM	42.0	6.61	0.00	1.080	17.10	47.6
MW-0076R	11/14/2012 13:47	4.86	NM	40.0	6.63	0.00	1.090	17.10	62.1
MW-0076R	11/14/2012 13:49	4.80	NM	39.0	6.64	0.00	1.100	17.20	73.7
MW-0076R	11/14/2012 13:51	4.77	NM	38.0	6.62	0.00	1.090	17.20	84.7
MW-0076R	11/14/2012 13:53	4.69	NM	38.0	6.56	0.00	1.090	17.30	58.4
MW-0076R	11/14/2012 13:55	4.69	NM	38.0	6.59	0.00	1.090	17.30	62.1
MW-0076R	11/14/2012 13:57	4.67	5.40	37.0	6.60	0.00	1.090	17.44	61.7
MW-0076R	11/14/2012 14:28	5.72	6.82	-113.0	7.22	0.10	1.230	18.15	NM
MW-0076R	11/15/2012 09:59	4.46	5.51	-107.0	7.19	0.10	1.540	17.89	53.5
MW-0076R	02/13/2013 14:53	2.90	4.50	-184.0	6.61	0.34	6.334	11.06	276.7
MW-0076R	02/13/2013 14:55	0.93	NM	-241.0	6.63	0.37	6.766	10.79	270.0
MW-0076R	02/13/2013 14:58	0.60	NM	-264.0	6.67	0.38	6.981	11.03	405.5
MW-0076R	02/13/2013 15:00	0.50	NM	-276.0	6.69	0.39	7.180	11.02	156.2
MW-0076R	02/13/2013 15:02	0.54	NM	-278.0	6.71	0.40	7.298	11.41	68.4
MW-0076R	02/13/2013 15:05	0.59	NM	-285.0	6.72	0.41	7.438	11.45	53.7
MW-0076R	02/13/2013 15:07	0.60	NM	-289.0	6.73	0.42	7.559	11.25	60.3
MW-0076R	02/13/2013 15:09	0.59	NM	-296.0	6.74	0.42	7.583	10.98	2426.4
MW-0076R	02/13/2013 15:12	0.57	NM	-302.0	6.75	0.43	7.767	10.48	488.3
MW-0076R	02/13/2013 15:14	0.54	NM	-303.0	6.76	0.43	7.808	10.50	93.3
MW-0076R	02/13/2013 15:16	0.51	NM	-304.0	6.76	0.44	7.890	10.45	1544.0
MW-0076R	02/13/2013 15:19	0.49	NM	-305.0	6.77	0.44	7.974	10.33	121.8
MW-0076R	02/13/2013 15:21	0.47	NM	-305.0	6.77	0.44	8.016	10.50	411.5
MW-0076R	02/13/2013 15:23	0.45	NM	-306.0	6.77	0.45	8.096	10.52	217.0
MW-0076R	02/13/2013 15:26	0.44	NM	-307.0	6.78	0.45	8.175	10.46	203.7
MW-0076R	02/13/2013 15:28	0.42	NM	-308.0	6.78	0.45	8.221	10.49	437.0
MW-0076R	02/13/2013 15:31	0.41	NM	-308.0	6.78	0.46	8.291	10.45	73.6
MW-0076R	02/13/2013 15:33	0.40	NM	-309.0	6.78	0.46	8.347	10.44	97.5
MW-0076R	02/13/2013 15:35	0.39	NM	-309.0	6.79	0.47	8.399	10.34	224.9
MW-0076R	02/13/2013 15:38	0.38	NM	-311.0	6.79	0.47	8.471	10.18	138.7
MW-0076R	02/13/2013 15:40	0.36	4.21	-312.0	6.79	0.47	8.525	10.15	141.6
MW-0076R	02/13/2013 16:10	2.96	4.90	-219.0	6.99	0.15	2.959	10.25	59.0
MW-0076R	02/14/2013 12:00	0.37	4.30	-310.0	6.61	0.20	3.760	10.00	10.1
MW-0076R	05/13/2013 10:40	2.30	4.83	-62.0	5.35	0.07	1.465	13.36	1.2
MW-0076R	05/13/2013 11:07	2.61	5.62	-42.0	5.51	0.07	1.468	12.11	24.7
MW-0076R	05/14/2013 10:37	1.54	5.08	-111.0	5.62	0.08	1.575	11.87	15.1
MW-0076R	10/24/2013 15:31	1.00	6.18	-404.0	7.04	0.14	2.619	17.17	2.7
MW-0076R	10/24/2013 16:04	2.95	7.03	-349.0	7.18	0.12	2.313	18.58	412.8
MW-0076R	10/25/2013 12:00	3.55	6.43	-399.0	7.06	0.18	3.387	18.60	0.9
MW-0076R	03/21/2014 12:48	0.80	4.82	-216.0	6.49	0.26	4.787	10.06	0.8
MW-0076R	03/21/2014 13:14	2.60	5.78	-91.0	7.08	0.23	4.270	9.76	1109.0
MW-0076R	03/21/2014 15:02	2.07	4.98	-44.0	6.10	0.22	4.075	8.69	107.5
MW-0076R	05/07/2014 15:47	1.31	4.85	-385.0	6.03	0.49	8.668	13.01	6.5
MW-0076R	05/07/2014 16:22	5.08	5.21	-9.0	6.56	0.08	1.560	10.82	39.6
MW-0076R	05/08/2014 12:10	1.20	4.83	-367.0	6.70	0.45	8.079	10.55	5.4
MW-0076R	07/28/2014 15:41	0.36	4.76	113.0	6.79	0.10	1.987	21.18	6.7
MW-0076R	07/28/2014 16:07	2.94	5.62	234.0	6.18	0.06	1.153	18.50	22.0
MW-0076R	07/29/2014 12:14	0.88	5.14	240.0	5.84	0.06	1.242	19.11	8.8
MW-0076R	10/15/2014 14:19	0.94	5.43	-121.0	6.92	0.06	1.281	20.92	10.2
MW-0076R	10/15/2014 15:20	1.80	7.03	-86.0	7.25	0.07	1.331	19.35	322.2
MW-0076R	10/16/2014 11:53	0.16	5.57	-90.0	6.90	0.07	1.391	19.26	13.1
MW-0076R	03/16/2015 14:47	1.43	4.16	-339.0	6.16	0.62	10.950	10.88	1611.0
MW-0076R	03/16/2015 15:19	8.67	7.68	-84.0	6.57	0.18	2.763	7.94	62.2
MW-0076R	03/17/2015 11:01	0.91	9.50	-206.0	6.35	0.33	6.096	7.40	9.1
MW-0076R	05/20/2015 10:19	3.52	6.51	116.0	6.41	0.22	4.060	12.17	29.6
MW-0076R	05/20/2015 12:43	0.98	5.27	-21.0	6.35	0.52	9.220	11.29	3.7
MW-0076R	09/23/2015 11:19	0.69	5.87	-67.0	6.94	0.12	2.362	19.82	2.4
MW-0076R	09/23/2015 15:19	2.61	6.59	-1.0	6.35	0.07	1.411	20.54	10.2
MW-0076R	11/10/2015 10:08	0.87	5.79	496.0	6.70	0.11	2.143	18.05	26.5
MW-0076R	11/10/2015 11:18	1.36	6.39	-61.0	6.77	0.22	4.050	18.10	276.8
MW-0076R	01/22/2016 09:16	0.28	5.14	3.0	6.71	0.08	1.520	12.50	12.5
MW-0076R	01/22/2016 10:51	3.05	6.02	-41.0	6.41	0.22	4.151	13.03	31.1
MW-0076R	04/19/2016 11:39	1.25	5.14	-17.0	6.12	0.13	2.549	10.80	40.4
MW-0076R	04/19/2016 15:39	5.56	6.49	25.0	6.52	0.27	4.961	11.73	1589.2

Table 6a
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Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-0076R	06/28/2016 09:59	3.91	6.03	-13.0	5.60	0.06	1.218	17.25	11.2
MW-0076R	06/28/2016 10:08	10.85	5.11	9.0	6.01	0.08	1.547	16.92	4.9
MW-0076R	07/06/2016 13:41	0.45	8.97	-75.0	6.09	0.05	0.929	16.57	4.0
MW-0076R	07/06/2016 14:31	1.75	15.24	-137.0	6.40	0.81	13.900	15.81	60.6
MW-0076R	10/11/2016 09:25	0.70	5.51	-34.0	6.61	0.16	2.968	20.95	10.5
MW-0076R	10/11/2016 10:59	2.82	6.42	-58.0	7.23	0.13	2.571	20.85	19.7
MW-0076R	04/12/2017 09:46	NM	4.78	NM	NM	0.07	1.334	NM	NM
MW-0076R	04/12/2017 11:04	NM	4.73	NM	NM	0.10	1.982	NM	NM
MW-0076R	04/12/2017 11:42	NM	5.93	NM	NM	0.13	2.585	NM	NM
MW-0076R	07/06/2017 11:05	3.44	5.09	172.0	5.63	0.05	0.985	18.66	17.1
MW-0076R	07/06/2017 13:34	0.91	5.06	8.5	6.23	0.19	3.606	20.99	6.0
MW-0076R	07/06/2017 14:10	5.28	5.76	87.0	7.78	0.15	2.842	18.43	7.4
MW-0076R	10/03/2017 12:06	0.81	5.56	76.0	6.08	0.77	13.283	20.75	7.4
MW-0076R	10/03/2017 12:58	0.56	5.52	138.0	6.82	0.82	15.230	19.25	15.9
MW-0076R	10/03/2017 13:36	2.18	6.75	114.0	6.84	0.58	10.150	20.76	96.4
MW-0076R	01/16/2018 11:16	4.20	4.72	211.0	7.60	0.18	3.423	8.74	23.6
MW-0076R	01/16/2018 11:18	1.66	NM	211.0	7.39	0.21	3.916	9.68	70.2
MW-0076R	01/16/2018 11:20	1.02	NM	210.0	7.20	0.22	4.094	10.13	36.8
MW-0076R	01/16/2018 11:22	0.75	NM	209.0	7.08	0.22	4.192	10.25	28.8
MW-0076R	01/16/2018 11:24	0.63	NM	209.0	6.99	0.22	4.239	10.35	9.8
MW-0076R	01/16/2018 11:27	0.58	NM	208.0	6.93	0.23	4.278	10.34	11.0
MW-0076R	01/16/2018 11:29	0.56	NM	208.0	6.87	0.23	4.297	10.38	8.4
MW-0076R	01/16/2018 11:31	0.54	NM	207.0	6.82	0.23	4.357	10.25	11.1
MW-0076R	01/16/2018 11:33	0.52	NM	206.0	6.78	0.23	4.394	10.20	6.9
MW-0076R	01/16/2018 11:35	0.51	NM	206.0	6.75	0.23	4.394	10.22	8.7
MW-0076R	01/16/2018 11:37	0.48	NM	205.0	6.72	0.23	4.386	10.38	7.4
MW-0076R	01/16/2018 11:40	0.46	NM	204.0	6.69	0.23	4.367	10.42	6.4
MW-0076R	01/16/2018 11:42	0.45	NM	203.0	6.66	0.23	4.391	10.38	8.6
MW-0076R	01/16/2018 11:44	0.43	NM	203.0	6.64	0.23	4.387	10.45	6.1
MW-0076R	01/16/2018 11:46	0.41	NM	202.0	6.61	0.23	4.372	10.52	6.2
MW-0076R	01/16/2018 11:48	0.39	NM	201.0	6.59	0.23	4.354	10.53	7.4
MW-0076R	01/16/2018 11:50	0.39	NM	200.0	6.57	0.23	4.360	10.60	6.5
MW-0076R	01/16/2018 11:52	0.38	NM	199.0	6.56	0.23	4.346	10.65	6.5
MW-0076R	01/16/2018 11:55	0.38	NM	198.0	6.54	0.23	4.334	10.67	6.7
MW-0076R	01/16/2018 11:57	0.36	NM	197.0	6.52	0.23	4.336	10.69	16.7
MW-0076R	01/16/2018 11:59	0.35	NM	197.0	6.51	0.23	4.348	10.56	6.7
MW-0076R	01/16/2018 12:01	0.35	NM	196.0	6.50	0.23	4.345	10.62	6.6
MW-0076R	01/16/2018 12:03	0.33	5.05	195.0	6.48	0.23	4.346	10.64	6.1
MW-0076R	01/19/2018 10:33	AM	5.10	146.0	5.82	0.07	1.433	9.61	15.6
MW-0076R	01/19/2018 11:50	AM	5.99	269.0	7.55	0.17	3.266	11.32	13.7
MW-0076R	01/19/2018 12:03	0.33	5.05	195.0	6.48	0.23	4.362	10.50	6.1
MW-0076R	04/02/2018 10:26	7.56	4.36	53.0	6.75	0.10	2.015	7.50	12.3
MW-0076R	04/02/2018 10:28	3.53	NM	84.0	6.58	0.09	1.710	8.38	6.9
MW-0076R	04/02/2018 10:29	3.45	NM	95.0	6.59	0.08	1.563	8.46	4.5
MW-0076R	04/02/2018 10:32	3.63	NM	114.0	6.63	0.07	1.383	8.34	7.0
MW-0076R	04/02/2018 10:34	3.87	NM	128.0	6.62	0.06	1.248	8.40	6.1
MW-0076R	04/02/2018 10:37	4.15	NM	140.0	6.62	0.06	1.143	8.36	5.7
MW-0076R	04/02/2018 10:39	4.31	NM	149.0	6.61	0.05	1.091	8.23	5.3
MW-0076R	04/02/2018 10:41	4.36	NM	158.0	6.61	0.05	1.077	8.19	4.5
MW-0076R	04/02/2018 10:44	4.36	NM	164.0	6.60	0.06	1.135	8.13	4.5
MW-0076R	04/02/2018 10:46	4.28	NM	170.0	6.58	0.06	1.188	8.23	4.7
MW-0076R	04/02/2018 10:49	4.17	NM	174.0	6.59	0.06	1.211	8.21	4.7
MW-0076R	04/02/2018 10:51	4.09	NM	178.0	6.57	0.06	1.266	8.33	4.2
MW-0076R	04/02/2018 10:53	4.00	NM	181.0	6.57	0.06	1.292	8.35	5.2
MW-0076R	04/02/2018 10:56	3.92	NM	183.0	6.55	0.07	1.339	8.42	5.6
MW-0076R	04/02/2018 10:58	3.83	NM	184.0	6.56	0.07	1.390	8.44	5.2
MW-0076R	04/02/2018 11:01	3.71	NM	184.0	6.55	0.07	1.431	8.54	4.6
MW-0076R	04/02/2018 11:03	3.55	NM	183.0	6.56	0.07	1.477	8.53	4.6
MW-0076R	04/02/2018 11:06	3.37	NM	181.0	6.56	0.08	1.561	8.50	3.9
MW-0076R	04/02/2018 11:08	3.19	NM	180.0	6.56	0.08	1.577	8.51	3.3
MW-0076R	04/02/2018 11:10	3.03	NM	178.0	6.54	0.08	1.613	8.62	3.6
MW-0076R	04/02/2018 11:13	2.98	4.94	176.0	6.53	0.08	1.615	8.70	3.6
MW-0076R	04/03/2018 10:25	2.38	4.38	110.0	7.22	0.10	1.976	8.16	21.6
MW-0076R	04/03/2018 11:13	2.98	4.94	176.0	6.53	0.08	1.631	6.53	3.6
MW-0076R	04/03/2018 11:51	5.17	6.62	124.0	6.61	0.06	1.186	8.22	7.6
MW-0076R	07/02/2018 08:27	3.88	4.87	166.0	6.28	0.04	0.876	24.02	13.0
MW-0076R	07/02/2018 08:29	2.64	NM	133.0	5.72	0.04	0.880	21.02	8.1
MW-0076R	07/02/2018 08:31	2.46	NM	121.0	5.54	0.04	0.876	20.94	8.2
MW-0076R	07/02/2018 08:34	2.39	NM	111.0	5.45	0.04	0.873	20.79	8.0
MW-0076R	07/02/2018 08:36	2.38	NM	103.0	5.42	0.04	0.874	20.63	8.2
MW-0076R	07/02/2018 08:38	2.35	NM	96.0	5.41	0.04	0.878	20.80	8.1

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-0076R	07/02/2018 08:40	2.33	NM	91.0	5.41	0.04	0.877	20.88	8.6
MW-0076R	07/02/2018 08:42	2.31	NM	87.0	5.41	0.04	0.874	20.80	8.8
MW-0076R	07/03/2018 08:42	2.31	5.00	87.0	5.41	0.04	0.871	20.98	8.8
MW-0076R	07/03/2018 09:20	1.41	5.11	58.0	5.73	0.06	1.174	18.26	5.6
MW-0076R	07/03/2018 09:22	4.03	5.85	91.0	6.18	0.03	0.523	18.47	10.2
MW-0076R	11/08/2018 09:50	1.43	5.40	3.4	6.62	NM	2.273	18.15	1.8
MW-0076R	11/08/2018 10:15	0.83	5.49	-73.1	7.20	NM	2.552	18.20	0.0
MW-0076R	11/08/2018 10:25	0.84	5.50	-78.6	7.21	NM	2.582	18.36	0.0
MW-0076R	01/15/2019 10:35	5.01	5.29	-72.4	6.73	0.43	0.881	11.40	0.0
MW-0076R	01/15/2019 11:15	1.98	5.69	-135.9	6.94	0.58	1.162	12.62	0.0
MW-0076R	01/15/2019 11:25	1.23	5.48	-141.0	7.06	0.62	1.233	12.83	0.0
MW-0076R	05/02/2019 09:20	4.16	NM	131.6	6.40	NM	2.006	9.41	12.8
MW-0076R	05/02/2019 10:42	3.98	5.97	-44.6	7.04	2.06	3.878	10.77	15.8
MW-0076R	07/11/2019 09:25	0.77	NM	109.6	6.51	NM	1.343	18.26	4.1
MW-0076R	07/11/2019 10:05	3.65	5.24	166.6	6.55	NM	1.376	18.52	75.9
MW-0076R	07/11/2019 10:10	0.81	5.26	138.5	6.48	NM	1.403	18.31	11.8
MW-0076R	07/11/2019 10:15	0.68	5.26	130.5	6.44	NM	1.301	18.32	6.4
MW-0076R	07/11/2019 10:20	0.71	5.27	127.3	6.42	NM	1.294	18.44	6.2
MW-0076R	07/11/2019 10:25	0.74	5.29	119.0	6.45	NM	1.341	18.24	4.5
MW-0076R	07/11/2019 10:30	0.76	5.31	118.4	6.49	NM	1.342	18.26	4.3
MW-0076R	07/11/2019 10:33	0.43	5.84	44.2	6.71	0.96	1.870	16.20	1.2
MW-0076R	07/11/2019 10:35	0.77	5.31	109.6	6.51	NM	1.343	18.26	4.1
MW-0076R	07/11/2019 10:40	0.43	5.84	44.2	6.71	0.96	1.870	16.20	NM
MW-0076R	07/11/2019 10:45	0.40	5.87	38.2	6.76	1.00	1.937	NM	1.2
MW-0076R	07/11/2019 10:50	NM	NM	NM	NM	NM	NM	17.90	1.5
MW-0076R	10/09/2019 12:30	3.20	5.81	26.6	6.54	NM	0.465	17.42	53.1
MW-0076R	10/09/2019 12:35	1.32	5.96	26.9	6.52	NM	0.493	18.32	19.6
MW-0076R	10/09/2019 12:40	1.15	5.92	14.6	6.57	NM	0.506	18.35	13.8
MW-0076R	10/09/2019 12:45	1.02	6.01	3.7	6.60	NM	0.530	18.48	11.7
MW-0076R	10/09/2019 12:50	1.02	6.02	-7.8	6.66	NM	0.548	18.39	7.6
MW-0076R	10/09/2019 12:55	0.98	6.03	-18.0	6.71	NM	0.564	18.20	6.0
MW-0076R	10/09/2019 13:00	0.92	6.05	-25.5	6.75	NM	0.578	18.46	5.2
MW-0076R	10/09/2019 13:05	0.92	6.07	-33.5	6.81	NM	0.590	18.39	4.8
MW-0076R	10/09/2019 13:10	0.90	6.08	-33.3	6.84	NM	0.591	18.43	4.2
MW-0076R	10/09/2019 13:15	0.91	6.10	-43.0	6.87	NM	0.591	18.34	3.7
MW-0076R	10/09/2019 14:55	2.11	6.40	-85.7	7.10	0.33	0.676	18.35	1.7
MW-0076R	10/09/2019 15:15	1.09	6.40	-98.7	7.18	0.34	0.680	18.10	4.5
MW-0076R	01/15/2020 11:20	6.51	5.05	197.0	6.15	NM	0.373	12.55	11.0
MW-0076R	01/15/2020 11:25	3.70	5.16	192.7	6.04	NM	0.341	12.70	9.2
MW-0076R	01/15/2020 11:30	3.49	5.45	159.2	6.00	NM	0.333	12.87	1.0
MW-0076R	01/15/2020 11:35	3.40	5.57	127.5	6.04	NM	0.357	12.84	1.7
MW-0076R	01/15/2020 11:40	2.56	5.62	85.2	6.14	NM	0.402	12.92	1.4
MW-0076R	01/15/2020 11:45	2.29	5.66	69.3	6.19	NM	0.428	12.97	1.5
MW-0076R	01/15/2020 11:50	1.96	5.70	45.7	6.23	NM	0.446	13.01	1.5
MW-0076R	01/15/2020 11:55	1.70	5.71	26.9	6.29	NM	0.470	13.07	0.7
MW-0076R	01/15/2020 12:00	1.55	5.73	14.9	6.34	NM	0.484	13.10	0.5
MW-0076R	01/15/2020 12:05	1.41	5.76	5.1	6.40	NM	0.500	13.15	1.1
MW-0076R	01/15/2020 13:05	0.42	6.49	-64.2	6.75	0.27	0.556	13.58	0.4
MW-0076R	01/15/2020 13:20	0.44	6.42	-66.9	6.82	0.27	0.561	13.65	0.5
MW-0076R	04/10/2020 12:15	NM	NM	290.2	6.37	NM	0.845	11.93	1.6
MW-0076R	04/10/2020 13:15	NM	6.90	177.5	6.82	0.49	0.990	11.52	0.2
MW-77R	11/04/2009 12:37	2.29	6.66	-23.0	6.21	0.10	1.730	17.80	40.7
MW-77R	11/04/2009 12:39	2.20	6.66	-55.0	6.55	0.10	1.710	18.10	223.0
MW-77R	11/04/2009 12:41	1.44	6.66	-64.0	6.63	0.10	1.710	18.10	191.0
MW-77R	11/04/2009 12:43	1.21	6.66	-65.0	6.66	0.10	1.710	18.10	131.0
MW-77R	11/04/2009 12:45	1.23	6.66	-68.0	6.70	1.00	1.750	17.90	11.5
MW-77R	11/04/2009 12:47	1.27	6.66	-70.0	6.71	0.10	1.750	18.00	9.9
MW-77R	11/04/2009 12:49	1.14	6.66	-71.0	6.71	0.10	1.750	18.10	9.5
MW-77R	11/04/2009 12:51	1.08	6.66	-71.0	6.71	0.10	1.750	18.20	8.6
MW-77R	11/04/2009 12:53	1.08	6.66	-71.0	6.71	0.10	1.750	18.30	8.5
MW-77R	11/04/2009 12:55	1.07	6.66	-72.0	6.71	0.10	1.750	18.40	8.5
MW-77R	11/04/2009 12:57	1.06	6.66	-71.0	6.70	0.10	1.760	18.20	8.5
MW-77R	11/04/2009 12:59	1.08	6.66	-72.0	6.70	0.10	1.770	18.10	8.6
MW-77R	11/04/2009 13:01	1.10	6.66	-72.0	6.71	0.10	1.770	18.10	8.6
MW-77R	07/20/2010 11:24	0.83	1.69	-109.0	6.43	0.10	3.000	NM	-5.0
MW-77R	07/20/2010 11:26	0.53	1.69	-111.0	6.43	0.10	2.900	NM	-5.0
MW-77R	07/20/2010 11:28	0.17	7.66	-113.0	6.44	0.10	2.900	NM	-5.0
MW-77R	07/20/2010 11:30	0.05	7.66	-114.0	6.43	0.10	2.900	NM	-5.0
MW-77R	07/20/2010 11:32	0.00	7.66	-115.0	6.43	0.10	2.900	NM	-5.0
MW-77R	07/20/2010 11:34	0.00	7.66	-113.0	6.41	0.10	2.900	NM	-5.0
MW-77R	07/20/2010 11:36	0.00	7.66	-111.0	6.40	0.10	2.900	NM	-5.0

Table 6a
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Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-77R	**07/20/2010 11:38**	0.00	7.66	-110.0	6.40	0.10	2.900	NM	-5.0
MW-77R	**07/20/2010 11:40**	0.00	7.66	-109.0	6.40	0.10	2.900	NM	-5.0
MW-77R	**07/20/2010 11:42**	0.00	7.66	-107.0	6.43	0.10	2.800	NM	-5.0
MW-77R	**07/20/2010 11:44**	0.00	7.66	-108.0	6.42	0.10	2.800	NM	-5.0
MW-77R	**07/20/2010 11:46**	0.00	7.66	-109.0	6.43	0.10	2.800	NM	-5.0
MW-77R	**07/20/2010 11:48**	0.00	7.66	-110.0	6.43	0.10	2.800	NM	-5.0
MW-77R	**07/20/2010 12:25**	0.09	7.91	-97.0	6.47	0.10	2.500	NM	75.1
MW-77R	**07/21/2010 09:45**	0.00	7.73	-124.0	6.24	0.10	2.490	NM	403.0
MW-77R	**11/01/2010 13:22**	3.51	7.63	-66.0	6.51	0.10	1.970	17.40	47.8
MW-77R	**11/01/2010 13:24**	2.42	7.63	-69.0	6.52	0.10	2.000	17.00	50.2
MW-77R	**11/01/2010 13:26**	1.25	7.63	-70.0	6.53	0.10	2.010	16.80	51.1
MW-77R	**11/01/2010 13:28**	0.44	7.63	-72.0	6.54	0.10	2.020	16.60	51.3
MW-77R	**11/01/2010 13:30**	0.14	7.63	-74.0	6.55	0.10	2.040	16.30	44.6
MW-77R	**11/01/2010 13:32**	0.00	7.63	-75.0	6.56	0.10	2.030	16.30	36.8
MW-77R	**11/01/2010 13:34**	0.00	7.63	-76.0	6.56	0.10	2.030	16.20	34.7
MW-77R	**11/01/2010 13:36**	0.00	7.63	-77.0	6.57	0.10	2.020	16.30	36.1
MW-77R	**11/01/2010 13:38**	0.00	7.63	-77.0	6.58	0.10	2.020	16.30	37.0
MW-77R	**11/01/2010 13:40**	0.00	7.63	-78.0	6.58	0.10	2.020	16.30	39.5
MW-77R	**11/01/2010 13:42**	0.00	7.63	-79.0	6.59	0.10	2.010	16.60	36.9
MW-77R	**11/01/2010 13:44**	0.00	7.63	-79.0	6.59	0.10	2.010	16.60	35.6
MW-77R	**11/01/2010 13:46**	0.00	7.62	-79.0	6.59	0.10	2.020	16.40	35.3
MW-77R	**11/01/2010 14:28**	0.00	7.71	-73.0	6.47	0.10	1.940	18.50	27.9
MW-77R	**11/02/2010 10:30**	0.00	7.72	-89.0	6.31	0.10	1.970	18.40	136.0
MW-77R	**03/14/2011 14:58**	0.60	6.09	-84.0	6.84	0.15	2.905	9.12	3.8
MW-77R	**03/14/2011 16:00**	1.21	6.68	-35.0	6.70	0.13	2.587	8.48	14.8
MW-77R	**03/15/2011 12:03**	1.13	6.26	0.0	6.70	0.12	2.391	8.09	9.8
MW-77R	**05/02/2011 13:13**	0.00	6.54	-78.0	6.74	0.11	1.520	10.70	7.0
MW-77R	**05/02/2011 13:43**	9.87	6.63	39.0	6.60	0.00	0.001	18.99	3.2
MW-77R	**05/02/2011 13:45**	9.50	NM	-5.0	6.88	0.09	1.322	12.23	31.6
MW-77R	**05/02/2011 13:47**	2.78	NM	-31.0	6.86	0.09	1.301	11.90	11.5
MW-77R	**05/02/2011 13:49**	1.59	NM	-40.0	6.86	0.09	1.308	11.86	12.1
MW-77R	**05/02/2011 13:51**	1.25	NM	-46.0	6.87	0.09	1.316	12.00	11.6
MW-77R	**05/02/2011 13:53**	1.12	NM	-50.0	6.87	0.09	1.322	12.13	9.5
MW-77R	**05/02/2011 13:56**	1.08	6.53	-53.0	6.87	0.09	1.752	11.93	10.5
MW-77R	**05/02/2011 15:24**	3.10	7.32	-12.0	6.71	0.09	1.709	10.82	17.3
MW-77R	**08/15/2011 10:55**	0.22	NM	-76.0	6.45	0.10	1.880	21.70	4.5
MW-77R	**08/15/2011 10:57**	0.15	NM	-79.0	6.51	0.10	1.880	21.70	3.9
MW-77R	**08/15/2011 10:59**	0.12	NM	-81.0	6.54	0.10	1.880	21.60	3.7
MW-77R	**08/15/2011 11:01**	0.05	NM	-83.0	6.56	0.10	1.880	21.60	3.9
MW-77R	**08/15/2011 11:03**	0.05	NM	-83.0	6.58	0.10	1.880	21.60	3.9
MW-77R	**08/15/2011 11:05**	0.04	NM	-83.0	6.59	0.10	1.890	21.50	4.0
MW-77R	**08/15/2011 11:07**	0.01	NM	-85.0	6.60	0.10	1.890	21.40	4.2
MW-77R	**08/15/2011 11:09**	0.00	NM	-85.0	6.60	0.10	1.890	21.40	4.4
MW-77R	**08/15/2011 11:11**	0.00	NM	-88.0	6.61	0.10	1.900	21.40	6.0
MW-77R	**08/15/2011 11:13**	0.00	NM	-89.0	6.61	0.10	1.900	21.40	4.2
MW-77R	**08/15/2011 11:15**	0.00	NM	-90.0	6.62	0.10	1.910	21.30	4.1
MW-77R	**08/15/2011 11:17**	0.00	5.62	-91.0	6.63	0.10	1.910	21.30	4.0
MW-77R	**08/15/2011 11:51**	0.22	5.77	-38.0	6.54	0.10	1.830	21.40	33.5
MW-77R	**08/16/2011 10:40**	0.00	5.73	-98.0	6.61	0.10	1.850	20.00	7.3
MW-77R	**10/31/2011 14:31**	1.07	5.78	-73.0	6.79	0.07	1.455	18.74	1.9
MW-77R	**10/31/2011 15:15**	1.71	5.93	-50.0	6.93	0.07	1.421	19.02	9.5
MW-77R	**11/01/2011 12:01**	0.44	6.00	-60.0	6.77	0.07	1.447	18.56	4.0
MW-77R	**02/06/2012 15:42**	2.21	6.98	27.0	6.62	0.07	1.406	12.90	112.4
MW-77R	**02/06/2012 15:44**	-0.53	NM	14.0	6.66	0.07	1.442	10.74	12.2
MW-77R	**02/06/2012 15:47**	-0.64	NM	4.0	6.68	0.07	1.471	10.80	7.0
MW-77R	**02/06/2012 15:49**	-0.66	NM	-3.0	6.70	0.08	1.497	10.86	5.7
MW-77R	**02/06/2012 15:51**	-0.67	NM	-10.0	6.72	0.08	1.529	10.91	6.2
MW-77R	**02/06/2012 15:53**	-0.68	NM	-15.0	6.73	0.08	1.568	10.86	5.6
MW-77R	**02/06/2012 15:55**	-0.69	NM	-19.0	6.74	0.08	1.595	10.85	5.5
MW-77R	**02/06/2012 15:57**	-0.69	7.02	-22.0	6.75	0.08	1.632	10.89	5.8
MW-77R	**02/06/2012 15:58**	-0.69	7.02	-22.0	6.75	0.08	1.632	10.89	5.8
MW-77R	**02/06/2012 16:31**	-0.72	7.38	-29.0	6.83	0.09	1.725	10.73	22.7
MW-77R	**02/07/2012 13:37**	0.69	7.09	-68.0	6.67	0.10	2.400	11.60	13.9
MW-77R	**04/16/2012 15:10**	1.12	8.00	-44.0	6.47	0.17	3.235	25.13	448.8
MW-77R	**04/16/2012 15:12**	0.81	NM	-82.0	6.74	0.18	3.446	17.96	58.3
MW-77R	**04/16/2012 15:15**	0.58	NM	-90.0	6.84	0.18	3.444	16.53	2470.7
MW-77R	**04/16/2012 15:17**	0.49	NM	-94.0	6.89	0.18	3.467	15.95	99.1
MW-77R	**04/16/2012 15:19**	0.43	NM	-97.0	6.90	0.18	3.452	16.14	2470.8
MW-77R	**04/16/2012 15:22**	0.40	NM	-98.0	6.89	0.18	3.458	15.96	213.6
MW-77R	**04/16/2012 15:24**	0.37	NM	-100.0	6.90	0.18	3.452	15.92	2470.8
MW-77R	**04/16/2012 15:26**	0.36	NM	-101.0	6.89	0.18	3.451	15.93	15.9

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-77R	04/16/2012 15:29	0.36	NM	-103.0	6.90	0.18	3.463	15.53	2470.8
MW-77R	04/16/2012 15:31	0.34	NM	-104.0	6.90	0.18	3.438	16.53	16.0
MW-77R	04/16/2012 15:33	0.33	NM	-105.0	6.90	0.18	3.439	16.23	18.0
MW-77R	04/16/2012 15:36	0.32	NM	-105.0	6.89	0.18	3.443	16.19	56.1
MW-77R	04/16/2012 15:38	0.31	NM	-106.0	6.89	0.18	3.448	16.40	64.2
MW-77R	04/16/2012 15:41	0.31	NM	-106.0	6.89	0.18	3.458	16.04	20.2
MW-77R	04/16/2012 15:43	0.31	NM	-107.0	6.89	0.18	3.452	16.13	455.7
MW-77R	04/16/2012 15:45	3.97	NM	-91.0	6.90	0.18	3.417	17.08	5.4
MW-77R	04/16/2012 15:48	0.56	NM	-98.0	6.88	0.18	3.439	16.94	4.3
MW-77R	04/16/2012 15:50	0.33	NM	-100.0	6.88	0.18	3.438	16.66	4.2
MW-77R	04/16/2012 15:52	0.31	NM	-102.0	6.87	0.18	3.429	16.93	4.2
MW-77R	04/16/2012 15:55	0.30	NM	-103.0	6.87	0.18	3.441	16.68	3.8
MW-77R	04/16/2012 15:57	0.30	7.98	-104.0	6.87	0.18	3.431	16.69	4.0
MW-77R	04/16/2012 16:27	4.28	8.17	-50.0	6.73	0.13	2.604	12.15	58.0
MW-77R	04/17/2012 12:40	1.60	8.06	-109.0	6.78	0.20	3.680	11.91	15.4
MW-77R	07/19/2012 12:55	2.14	6.60	-25.0	6.55	0.09	1.708	22.80	37.1
MW-77R	07/19/2012 12:57	0.80	NM	-50.0	6.70	0.09	1.700	20.87	15.0
MW-77R	07/19/2012 12:59	0.60	NM	-61.0	6.73	0.09	1.695	20.27	16.1
MW-77R	07/19/2012 13:01	0.55	NM	-67.0	6.74	0.09	1.692	20.38	25.3
MW-77R	07/19/2012 13:04	0.51	NM	-71.0	6.74	0.09	1.693	20.34	18.8
MW-77R	07/19/2012 13:06	0.45	NM	-74.0	6.75	0.09	1.692	20.32	15.6
MW-77R	07/19/2012 13:08	0.40	NM	-76.0	6.76	0.09	1.693	20.28	19.5
MW-77R	07/19/2012 13:10	0.37	NM	-78.0	6.76	0.09	1.693	20.29	18.1
MW-77R	07/19/2012 13:12	0.34	NM	-80.0	6.76	0.09	1.691	20.38	20.2
MW-77R	07/19/2012 13:14	0.32	NM	-81.0	6.76	0.09	1.693	20.38	18.8
MW-77R	07/19/2012 13:17	0.31	NM	-82.0	6.77	0.09	1.694	20.29	74.3
MW-77R	07/19/2012 13:19	0.28	NM	-83.0	6.77	0.09	1.696	20.17	201.0
MW-77R	07/19/2012 13:21	0.27	NM	-84.0	6.77	0.09	1.694	20.24	2035.9
MW-77R	07/19/2012 13:23	0.26	NM	-85.0	6.78	0.09	1.694	20.18	1070.1
MW-77R	07/19/2012 13:25	0.24	NM	-86.0	6.78	0.09	1.692	20.20	128.4
MW-77R	07/19/2012 13:27	0.24	NM	-87.0	6.78	0.09	1.693	20.23	400.7
MW-77R	07/19/2012 13:30	0.24	NM	-87.0	6.78	0.09	1.693	20.25	157.5
MW-77R	07/19/2012 13:32	0.22	NM	-88.0	6.78	0.09	1.692	20.32	96.1
MW-77R	07/19/2012 13:34	0.22	NM	-89.0	6.79	0.09	1.690	20.35	63.4
MW-77R	07/19/2012 13:36	0.22	NM	-89.0	6.79	0.09	1.692	20.26	62.0
MW-77R	07/19/2012 13:38	0.22	NM	-89.0	6.79	0.09	1.693	20.21	96.9
MW-77R	07/19/2012 13:40	0.21	NM	-90.0	6.79	0.09	1.690	20.19	52.1
MW-77R	07/19/2012 13:43	0.21	6.58	-91.0	6.79	0.09	1.694	20.10	64.0
MW-77R	07/19/2012 14:18	2.02	7.23	-31.0	6.38	0.09	1.677	19.70	43.0
MW-77R	07/20/2012 10:35	3.28	6.54	-82.0	6.94	0.09	1.720	19.81	28.2
MW-77R	11/14/2012 11:04	5.70	7.40	-116.0	6.88	0.10	23.590	17.00	1.5
MW-77R	11/14/2012 11:06	5.36	NM	-117.0	6.94	0.10	2.590	17.20	2.6
MW-77R	11/14/2012 11:08	5.03	NM	-119.0	7.01	0.10	2.580	17.40	1.2
MW-77R	11/14/2012 11:10	4.91	NM	-120.0	7.02	0.10	2.580	17.50	0.8
MW-77R	11/14/2012 11:12	4.78	NM	-121.0	7.04	0.10	2.580	17.70	0.6
MW-77R	11/14/2012 11:14	4.70	NM	-122.0	7.05	0.10	2.580	17.70	0.6
MW-77R	11/14/2012 11:16	4.62	NM	-123.0	7.07	0.10	2.590	17.80	0.5
MW-77R	11/14/2012 11:18	4.56	7.42	-123.0	7.07	0.10	2.590	17.86	0.5
MW-77R	11/14/2012 11:48	6.48	7.59	-135.0	7.31	0.10	1.730	18.81	8.8
MW-77R	11/15/2012 08:57	4.48	7.52	-116.0	7.06	0.10	1.840	17.72	178.0
MW-77R	02/13/2013 13:37	1.84	5.71	-254.0	6.77	0.36	6.608	12.01	18.7
MW-77R	02/13/2013 13:40	1.09	NM	-276.0	6.80	0.41	7.466	10.61	0.7
MW-77R	02/13/2013 13:42	0.78	NM	-286.0	6.80	0.41	7.518	10.74	0.6
MW-77R	02/13/2013 13:45	0.68	NM	-292.0	6.81	0.42	7.544	10.75	0.7
MW-77R	02/13/2013 13:48	0.64	NM	-295.0	6.81	0.42	7.542	10.85	0.5
MW-77R	02/13/2013 13:50	0.65	NM	-298.0	6.82	0.42	7.609	10.51	0.6
MW-77R	02/13/2013 13:53	0.66	NM	-300.0	6.82	0.42	7.618	10.34	0.8
MW-77R	02/13/2013 13:56	0.65	5.73	-303.0	6.83	0.42	7.605	10.40	0.7
MW-77R	02/13/2013 14:34	4.05	6.11	-150.0	6.76	0.20	3.001	9.66	73.7
MW-77R	02/14/2013 11:31	0.56	6.00	-306.0	6.80	0.20	3.761	10.13	6.1
MW-77R	05/13/2013 09:13	0.28	7.11	-204.0	6.86	0.23	4.292	12.92	3.6
MW-77R	05/13/2013 09:43	0.56	7.21	-165.0	6.90	0.23	4.407	11.81	47.5
MW-77R	05/14/2013 09:48	0.07	7.13	-183.0	6.81	0.21	3.992	11.90	5.0
MW-77R	10/24/2013 09:06	1.09	8.84	-375.0	6.95	0.25	4.590	15.30	2.8
MW-77R	10/24/2013 09:32	2.20	8.95	-326.0	6.91	0.21	4.000	17.79	31.4
MW-77R	10/25/2013 09:25	0.79	8.89	-420.0	6.96	0.24	4.462	18.37	133.2
MW-77R	03/21/2014 11:30	1.00	6.46	-179.0	6.63	0.13	2.458	10.11	1.3
MW-77R	03/21/2014 11:52	1.91	6.64	-119.0	5.92	0.12	2.297	9.45	91.9
MW-77R	03/21/2014 14:32	1.07	6.43	-37.0	5.77	0.15	2.923	8.78	7.4
MW-77R	05/07/2014 14:10	1.27	6.51	-414.0	6.79	0.48	8.613	13.05	3.2
MW-77R	05/07/2014 14:40	1.86	6.76	-270.0	7.15	0.12	2.347	10.71	11.0

Table 6a
Field Parameter Results in Groundwater - West Yard
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Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-77R	05/08/2014 12:27	4.08	7.49	-92.0	5.50	0.09	1.853	10.36	19.9
MW-77R	07/28/2014 14:23	0.31	6.70	199.0	6.59	0.10	1.889	20.26	8.5
MW-77R	07/28/2014 14:48	1.32	6.83	233.0	6.89	0.10	1.890	17.63	11.5
MW-77R	07/29/2014 11:20	0.13	6.73	185.0	6.67	0.09	1.797	18.06	2.1
MW-77R	10/15/2014 15:05	0.91	7.61	-124.0	6.84	0.11	2.093	19.98	10.7
MW-77R	10/15/2014 15:31	1.90	7.75	-90.0	7.03	0.11	2.102	18.73	16.8
MW-77R	10/16/2014 12:21	0.99	7.20	-34.0	6.59	0.08	1.542	18.66	8.9
MW-77R	03/25/2015 09:34	1.17	6.08	-75.0	6.73	0.09	1.768	7.90	7.5
MW-77R	03/25/2015 10:30	3.12	6.37	-77.0	6.58	0.17	3.240	8.18	27.9
MW-77R	03/26/2015 09:46	1.46	6.24	-84.0	6.66	0.12	2.316	7.92	16.9
MW-77R	05/20/2015 11:56	0.66	7.62	-131.0	6.74	0.69	12.040	11.38	6.1
MW-77R	05/20/2015 14:49	3.08	7.78	-111.0	6.78	0.32	5.840	11.79	21.7
MW-77R	09/23/2015 10:53	1.88	7.20	-27.0	6.75	0.11	2.143	18.84	5.2
MW-77R	09/23/2015 13:56	2.99	7.18	-28.0	6.99	0.11	2.178	19.49	12.6
MW-77R	11/10/2015 09:37	4.79	7.87	482.0	6.61	0.11	2.095	17.75	16.0
MW-77R	11/10/2015 09:52	1.87	7.97	-102.0	6.78	0.24	4.485	17.59	20.4
MW-77R	01/21/2016 12:05	0.52	7.35	45.0	6.56	0.09	1.685	13.14	11.6
MW-77R	01/21/2016 15:38	6.56	7.68	-102.0	6.75	0.32	5.953	12.76	23.4
MW-77R	04/19/2016 11:11	0.44	7.60	-89.0	6.53	0.14	2.745	11.57	5.8
MW-77R	04/19/2016 14:13	1.15	7.76	-61.0	6.96	0.40	7.281	11.87	166.9
MW-77R	06/28/2016 09:27	0.49	7.63	-175.0	10.83	0.20	3.770	15.26	2.5
MW-77R	06/28/2016 11:41	2.60	7.84	-156.0	6.76	0.57	10.080	16.71	12.0
MW-77R	10/11/2016 09:52	0.45	7.03	-74.0	6.99	0.20	3.712	20.22	10.3
MW-77R	10/11/2016 12:06	0.94	7.67	-106.0	7.92	0.17	3.283	20.12	17.6
MW-77R	01/06/2017 12:05	1.08	6.09	-64.0	7.69	0.08	1.595	11.59	24.9
MW-77R	01/06/2017 14:49	2.31	6.22	-56.0	6.89	0.06	1.210	11.72	22.1
MW-77R	04/12/2017 09:05	NM	6.17	NM	NM	0.08	1.543	NM	NM
MW-77R	04/12/2017 09:39	NM	6.05	NM	NM	0.15	2.857	NM	NM
MW-77R	04/12/2017 10:19	NM	6.28	NM	NM	0.17	3.307	NM	NM
MW-77R	07/06/2017 11:45	1.01	6.97	-70.0	6.60	0.06	1.281	17.57	9.1
MW-77R	07/06/2017 15:01	0.14	6.97	40.0	7.11	0.27	5.071	20.27	5.9
MW-77R	07/06/2017 15:35	4.75	7.14	16.0	7.67	0.20	3.694	17.82	28.7
MW-77R	10/03/2017 12:35	0.53	7.74	-20.0	6.76	0.30	5.556	19.72	5.3
MW-77R	10/03/2017 14:15	0.48	7.67	113.0	6.89	0.98	16.670	20.52	14.8
MW-77R	10/03/2017 14:46	2.09	7.80	81.0	7.42	0.40	7.154	20.07	10.0
MW-77R	01/16/2018 10:25	4.23	6.48	236.0	7.52	0.22	4.116	8.21	48.5
MW-77R	01/16/2018 10:28	1.32	NM	234.0	7.28	0.26	4.807	10.08	20.0
MW-77R	01/16/2018 10:30	0.78	NM	231.0	7.15	0.26	4.880	10.46	10.6
MW-77R	01/16/2018 10:32	0.71	NM	227.0	7.10	0.27	4.984	10.48	5.7
MW-77R	01/16/2018 10:35	0.66	NM	224.0	7.06	0.27	5.104	10.28	6.4
MW-77R	01/16/2018 10:37	0.57	NM	219.0	7.03	0.28	5.177	10.21	6.9
MW-77R	01/16/2018 10:40	0.52	NM	215.0	7.01	0.28	5.274	10.08	6.7
MW-77R	01/16/2018 10:42	0.49	NM	211.0	6.99	0.29	5.352	9.93	6.0
MW-77R	01/16/2018 10:44	0.46	NM	207.0	6.98	0.29	5.437	9.79	8.1
MW-77R	01/16/2018 10:47	0.46	NM	203.0	6.96	0.29	5.478	9.65	8.5
MW-77R	01/16/2018 10:49	0.45	6.37	199.0	6.95	0.30	5.578	9.51	8.1
MW-77R	01/19/2018 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-77R	01/19/2018 10:49	0.45	6.37	199.0	6.95	0.30	5.599	9.37	8.1
MW-77R	01/19/2018 10:59	7.06	6.54	91.0	6.33	0.09	1.687	10.75	13.4
MW-77R	01/19/2018 11:17	2.39	6.70	268.0	7.56	0.20	3.857	11.76	13.0
MW-77R	04/02/2018 08:43	2.78	6.35	-6.0	7.64	0.12	2.294	9.77	43.9
MW-77R	04/02/2018 08:46	1.42	NM	-13.0	7.59	0.12	2.282	9.68	119.1
MW-77R	04/02/2018 08:48	1.02	NM	-17.0	7.61	0.12	2.281	9.50	40.7
MW-77R	04/02/2018 08:51	0.73	NM	-20.0	7.61	0.12	2.286	9.39	45.3
MW-77R	04/02/2018 08:53	0.58	NM	-22.0	7.62	0.12	2.292	9.39	33.5
MW-77R	04/02/2018 08:55	0.43	NM	-24.0	7.63	0.12	2.295	9.45	44.1
MW-77R	04/02/2018 08:58	0.35	NM	-25.0	7.66	0.12	2.302	9.39	79.4
MW-77R	04/02/2018 09:00	0.30	NM	-27.0	7.66	0.12	2.308	9.42	29.5
MW-77R	04/02/2018 09:03	0.26	NM	-28.0	7.65	0.12	2.313	9.48	32.5
MW-77R	04/02/2018 09:05	0.21	NM	-29.0	7.69	0.12	2.317	9.38	31.5
MW-77R	04/02/2018 09:07	0.18	NM	-29.0	7.72	0.12	2.318	9.42	28.5
MW-77R	04/02/2018 09:10	0.16	NM	-30.0	7.73	0.12	2.320	9.44	29.6
MW-77R	04/02/2018 09:12	0.15	NM	-31.0	7.77	0.12	2.324	9.42	27.3
MW-77R	04/02/2018 09:15	0.14	NM	-31.0	7.81	0.12	2.322	9.39	27.4
MW-77R	04/02/2018 09:17	0.13	NM	-31.0	7.88	0.12	2.325	9.12	27.1
MW-77R	04/02/2018 09:19	0.14	NM	-31.0	7.93	0.12	2.325	8.87	26.5
MW-77R	04/02/2018 09:22	0.13	NM	-30.0	7.96	0.12	2.328	8.66	24.3
MW-77R	04/02/2018 09:24	0.12	NM	-29.0	8.02	0.12	2.332	8.37	27.1
MW-77R	04/02/2018 09:27	0.10	NM	-29.0	8.08	0.12	2.330	8.19	30.5
MW-77R	04/02/2018 09:29	0.09	NM	-28.0	8.15	0.12	2.328	8.03	26.2
MW-77R	04/02/2018 09:31	0.09	6.33	-27.0	8.19	0.12	2.327	7.89	24.5

Table 6a
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Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-77R	**04/03/2018 09:31**	0.09	0.33	-27.0	8.19	0.12	2.351	7.53	24.5
MW-77R	**04/03/2018 09:45**	4.62	6.38	86.0	7.53	0.05	1.076	8.60	4.8
MW-77R	**04/03/2018 10:11**	3.04	6.65	4.0	6.70	0.09	1.845	8.73	19.4
MW-77R	**07/02/2018 09:40**	1.58	6.92	95.0	6.58	0.06	1.121	27.49	12.7
MW-77R	**07/02/2018 09:42**	0.87	NM	18.0	6.47	0.06	1.251	22.00	8.7
MW-77R	**07/02/2018 09:45**	0.67	NM	-25.0	6.41	0.07	1.355	21.43	10.1
MW-77R	**07/02/2018 09:47**	0.60	NM	-65.0	6.40	0.07	1.434	21.14	8.8
MW-77R	**07/02/2018 09:50**	0.55	NM	-87.0	6.41	0.08	1.487	20.74	9.4
MW-77R	**07/02/2018 09:52**	0.52	NM	-96.0	6.41	0.08	1.518	21.00	9.8
MW-77R	**07/02/2018 09:55**	0.50	NM	-104.0	6.42	0.08	1.537	20.93	11.0
MW-77R	**07/02/2018 09:57**	0.48	NM	-111.0	6.43	0.08	1.559	20.95	10.0
MW-77R	**07/02/2018 10:00**	0.47	NM	-117.0	6.45	0.08	1.572	21.25	10.6
MW-77R	**07/02/2018 10:02**	0.45	NM	-123.0	6.46	0.08	1.609	21.46	10.6
MW-77R	**07/02/2018 10:04**	0.46	NM	-127.0	6.48	0.08	1.625	21.39	9.3
MW-77R	**07/02/2018 10:07**	0.45	NM	-131.0	6.50	0.09	1.655	21.63	10.2
MW-77R	**07/02/2018 10:09**	0.45	NM	-135.0	6.52	0.09	1.724	21.43	12.9
MW-77R	**07/02/2018 10:12**	0.43	NM	-140.0	6.55	0.09	1.724	21.34	13.1
MW-77R	**07/02/2018 10:14**	0.42	7.02	-144.0	6.57	0.09	1.730	20.96	13.2
MW-77R	**07/03/2018 10:10**	0.98	7.02	-71.0	6.62	0.07	1.418	17.98	18.0
MW-77R	**07/03/2018 10:14**	0.82	7.02	-144.0	6.57	0.09	1.724	21.14	13.3
MW-77R	**07/03/2018 10:55**	4.78	7.09	-85.0	6.59	0.06	1.216	17.82	39.9
MW-0077R	**11/08/2018 14:00**	1.57	6.24	-19.0	6.97	1.26	2.441	18.24	3.2
MW-0077R	**11/08/2018 14:25**	1.23	6.21	-35.2	6.93	1.36	2.515	18.48	0.0
MW-0077R	**11/08/2018 14:35**	1.04	6.25	-37.9	6.91	1.39	2.631	18.54	0.0
MW-0077R	**01/10/2019 14:10**	1.18	6.02	-14.6	6.89	0.68	1.358	11.71	25.5
MW-0077R	**01/10/2019 15:30**	5.02	6.21	-32.9	7.19	0.74	1.464	10.82	8.6
MW-0077R	**01/10/2019 15:45**	8.43	6.28	-54.5	7.20	0.61	1.221	11.10	33.5
MW-0077R	**04/10/2019 09:55**	1.00	NM	-19.4	6.90	NM	1.209	10.39	23.9
MW-0077R	**04/10/2019 11:12**	0.96	7.14	-65.8	7.03	0.89	1.765	10.11	8.1
MW-0077R	**07/10/2019 10:05**	4.41	7.33	123.0	7.37	NM	1.268	18.69	800.3
MW-0077R	**07/10/2019 10:10**	1.10	6.91	-0.5	6.87	NM	1.208	18.97	170.7
MW-0077R	**07/10/2019 10:15**	0.67	7.04	-9.0	6.79	NM	1.182	18.82	88.6
MW-0077R	**07/10/2019 10:20**	0.56	7.10	-13.2	6.80	NM	1.162	18.80	54.7
MW-0077R	**07/10/2019 10:25**	0.52	7.13	-14.8	6.82	NM	1.142	18.99	57.8
MW-0077R	**07/10/2019 10:30**	0.51	7.16	-14.1	6.82	NM	1.141	19.01	56.9
MW-0077R	**07/10/2019 10:35**	0.51	7.20	-14.0	6.81	NM	1.140	19.01	56.7
MW-0077R	**07/10/2019 10:40**	0.21	7.33	-19.3	6.82	0.61	1.211	17.50	NM
MW-0077R	**07/10/2019 10:45**	0.20	7.32	-19.4	6.82	0.61	1.216	NM	7.6
MW-0077R	**10/08/2019 12:05**	3.19	7.89	-121.2	7.12	NM	0.828	18.80	342.0
MW-0077R	**10/08/2019 12:10**	1.87	7.91	-116.2	6.92	NM	0.790	19.06	29.4
MW-0077R	**10/08/2019 12:15**	1.63	7.93	-119.0	6.90	NM	0.790	19.28	14.9
MW-0077R	**10/08/2019 12:20**	1.88	7.92	-122.6	6.89	NM	0.791	19.38	6.9
MW-0077R	**10/08/2019 12:25**	2.65	7.92	-125.9	6.90	NM	0.791	19.45	4.9
MW-0077R	**10/08/2019 12:30**	2.91	7.95	-127.4	6.89	NM	0.786	19.46	3.2
MW-0077R	**10/08/2019 12:35**	3.02	7.96	-127.6	6.89	NM	0.782	19.47	2.6
MW-0077R	**10/08/2019 12:40**	3.29	7.96	-129.1	6.89	NM	0.781	19.49	1.9
MW-0077R	**10/08/2019 12:45**	3.55	7.97	-129.7	6.89	NM	0.780	19.50	1.6
MW-0077R	**10/08/2019 12:50**	3.65	7.97	-130.8	6.88	NM	0.779	19.52	2.0
MW-0077R	**10/08/2019 14:05**	2.24	8.05	-130.5	6.95	0.38	0.775	19.59	0.8
MW-0077R	**10/08/2019 14:25**	1.06	8.08	-129.7	6.90	0.38	0.777	19.50	41.6
MW-0077R	**01/10/2020 12:10**	3.58	6.59	91.1	6.79	NM	0.847	11.88	284.7
MW-0077R	**01/10/2020 12:15**	0.44	6.59	14.9	6.93	NM	0.851	12.65	53.0
MW-0077R	**01/10/2020 12:20**	0.30	6.59	2.9	6.94	NM	0.853	12.84	34.3
MW-0077R	**01/10/2020 12:25**	0.22	6.64	-6.4	6.95	NM	0.856	12.89	20.8
MW-0077R	**01/10/2020 12:30**	0.24	6.64	-9.8	6.95	NM	0.854	12.93	18.1
MW-0077R	**01/10/2020 12:35**	0.18	6.64	-20.1	6.95	NM	0.855	12.95	14.4
MW-0077R	**01/10/2020 12:40**	0.30	6.65	-21.2	6.95	NM	0.855	12.85	13.2
MW-0077R	**01/10/2020 12:45**	0.20	6.65	-23.5	6.96	NM	0.856	12.87	10.6
MW-0077R	**01/10/2020 12:50**	0.18	6.65	-28.1	6.96	NM	0.859	12.85	9.6
MW-0077R	**01/10/2020 12:55**	0.18	6.66	-30.6	6.96	NM	0.861	12.93	9.0
MW-0077R	**01/10/2020 13:50**	0.15	6.95	-63.1	6.97	0.43	0.874	13.03	0.9
MW-0077R	**01/10/2020 14:05**	0.17	6.81	-60.0	6.97	0.43	0.878	12.76	2.7
MW-0077R	**04/10/2020 09:55**	1.13	NM	-61.4	7.19	NM	0.954	10.85	30.2
MW-0077R	**04/10/2020 10:50**	0.77	7.20	-51.7	6.73	0.47	0.955	10.95	2.3
MW-80R	**11/02/2009 14:28**	0.92	5.30	150.0	5.60	0.10	2.820	16.60	33.0
MW-80R	**11/02/2009 14:30**	0.83	5.30	158.0	5.48	0.10	2.810	16.50	24.4
MW-80R	**11/02/2009 14:32**	0.75	5.34	165.0	5.43	0.10	2.750	16.60	28.0
MW-80R	**11/02/2009 14:34**	0.70	5.34	175.0	5.39	0.10	2.800	16.60	26.4
MW-80R	**11/02/2009 14:36**	0.67	5.05	177.0	5.46	0.10	2.900	16.70	38.6
MW-80R	**11/02/2009 14:38**	0.71	5.05	186.0	5.41	0.10	2.830	116.30	28.5
MW-80R	**11/02/2009 14:40**	0.74	5.15	194.0	5.36	0.10	2.780	16.20	25.0

Table 6a
Field Parameter Results in Groundwater - West Yard
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Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-80R	11/02/2009 14:42	0.74	5.15	207.0	5.29	0.10	2.700	16.10	24.7
MW-80R	11/02/2009 14:44	0.74	5.15	210.0	5.29	0.10	2.690	16.00	25.1
MW-80R	11/02/2009 14:46	0.72	5.15	211.0	5.28	0.10	2.650	16.10	25.8
MW-80R	11/02/2009 14:48	0.71	5.20	216.0	5.26	0.10	2.650	16.10	30.3
MW-80R	11/02/2009 14:50	0.71	5.20	223.0	5.24	0.10	2.640	16.00	28.8
MW-80R	11/02/2009 14:52	0.70	5.17	224.0	5.23	0.10	2.660	16.00	28.4
MW-80R	11/02/2009 14:54	0.70	5.17	225.0	5.23	0.10	2.650	16.00	28.7
MW-80R	07/20/2010 09:10	2.56	6.40	91.0	5.07	0.20	3.230	NM	75.4
MW-80R	07/20/2010 10:40	0.06	5.43	51.0	5.84	0.20	3.800	NM	2.6
MW-80R	07/20/2010 10:42	0.91	5.43	39.0	5.87	0.20	3.800	NM	4.9
MW-80R	07/20/2010 10:44	0.47	5.42	34.0	5.87	0.20	3.800	NM	6.2
MW-80R	07/20/2010 10:46	0.18	5.42	34.0	5.86	0.20	3.800	NM	7.5
MW-80R	07/20/2010 10:48	0.00	5.69	41.0	5.83	0.20	3.800	NM	10.3
MW-80R	07/20/2010 10:50	0.00	5.69	44.0	5.83	0.20	3.700	NM	11.3
MW-80R	07/20/2010 10:52	0.00	5.80	47.0	5.83	0.20	3.700	NM	13.0
MW-80R	07/20/2010 10:54	0.00	5.80	49.0	5.84	0.20	3.700	NM	13.8
MW-80R	07/20/2010 10:56	0.00	5.86	50.0	5.84	0.20	3.600	NM	15.9
MW-80R	07/20/2010 10:58	0.00	5.86	55.0	5.85	0.20	3.600	NM	19.4
MW-80R	07/20/2010 11:00	0.00	5.98	56.0	5.85	0.20	3.600	NM	21.5
MW-80R	07/20/2010 11:02	0.00	5.98	57.0	5.85	0.20	3.600	NM	22.2
MW-80R	07/20/2010 11:04	0.00	6.06	58.0	5.86	0.20	3.600	NM	22.4
MW-80R	07/20/2010 11:43	2.56	0.00	108.0	5.91	0.20	3.400	NM	640.0
MW-80R	11/01/2010 12:38	5.25	5.44	61.0	5.97	0.20	4.150	16.60	7.1
MW-80R	11/01/2010 12:40	3.55	5.44	54.0	6.00	0.20	4.120	17.10	6.1
MW-80R	11/01/2010 12:42	2.60	5.46	50.0	6.01	0.20	4.110	17.10	6.1
MW-80R	11/01/2010 12:44	1.67	5.46	43.0	6.02	0.20	4.100	17.10	4.7
MW-80R	11/01/2010 12:46	0.97	5.48	39.0	6.02	0.20	4.100	17.10	53.0
MW-80R	11/01/2010 12:48	0.75	5.48	34.0	6.03	0.20	4.130	16.90	2.6
MW-80R	11/01/2010 12:50	0.17	5.50	34.0	6.04	0.20	4.170	16.70	3.1
MW-80R	11/01/2010 12:52	0.73	5.50	33.0	6.04	0.20	4.190	16.70	0.5
MW-80R	11/01/2010 12:54	0.56	5.52	32.0	6.05	0.20	4.220	16.70	0.8
MW-80R	11/01/2010 12:56	0.72	5.52	31.0	6.06	0.20	4.250	16.40	2.4
MW-80R	11/01/2010 12:58	0.91	5.53	31.0	6.07	0.20	4.260	16.40	3.2
MW-80R	11/01/2010 13:00	0.94	5.53	32.0	6.07	0.20	4.260	16.40	3.1
MW-80R	11/01/2010 13:02	0.97	5.54	33.0	6.07	0.20	4.240	16.40	3.4
MW-80R	11/01/2010 13:52	3.00	10.21	86.0	5.99	0.20	3.880	17.50	47.9
MW-80R	11/02/2010 09:40	6.63	6.32	86.0	5.55	0.20	3.960	17.70	34.9
MW-80R	03/15/2011 08:48	0.86	4.50	252.0	5.29	0.13	2.532	9.08	18.7
MW-80R	03/15/2011 09:56	2.66	12.20	233.0	5.59	0.14	2.663	10.90	92.8
MW-80R	03/15/2011 13:00	2.48	8.48	140.0	5.60	0.14	2.713	11.07	201.3
MW-80R	05/02/2011 12:43	3.02	4.21	293.0	4.49	0.11	1.700	14.28	7.3
MW-80R	05/02/2011 12:45	1.93	NM	328.0	4.44	0.11	1.673	12.90	0.9
MW-80R	05/02/2011 12:47	1.74	NM	342.0	4.43	0.11	1.659	12.59	1.2
MW-80R	05/02/2011 12:49	1.73	NM	352.0	4.43	0.11	1.644	12.33	1.4
MW-80R	05/02/2011 12:51	1.72	NM	354.0	4.43	0.11	1.643	12.32	1.1
MW-80R	05/02/2011 12:53	1.68	NM	362.0	4.42	0.11	1.641	12.30	1.7
MW-80R	05/02/2011 12:55	1.63	NM	366.0	4.42	0.11	1.636	12.26	1.8
MW-80R	05/02/2011 12:57	1.56	5.54	369.0	4.41	0.11	1.631	12.22	1.6
MW-80R	05/02/2011 12:58	1.56	5.54	369.0	4.41	0.11	2.158	12.22	1.6
MW-80R	05/02/2011 14:57	2.52	9.98	201.0	5.42	0.14	2.628	11.45	70.5
MW-80R	05/03/2011 11:46	2.78	4.68	238.0	5.19	0.17	2.380	11.40	26.2
MW-80R	08/15/2011 09:12	0.33	NM	200.0	5.51	0.20	3.430	21.10	9.2
MW-80R	08/15/2011 09:14	0.29	NM	197.0	5.52	0.20	3.420	21.00	9.8
MW-80R	08/15/2011 09:16	0.26	NM	196.0	5.52	0.20	3.420	21.00	10.8
MW-80R	08/15/2011 09:18	0.39	NM	196.0	5.51	0.20	3.410	21.00	11.3
MW-80R	08/15/2011 09:20	0.47	NM	199.0	5.49	0.20	3.390	21.00	14.6
MW-80R	08/15/2011 09:22	0.48	NM	200.0	5.48	0.20	3.380	21.00	14.1
MW-80R	08/15/2011 09:24	0.45	4.97	202.0	5.48	0.20	3.370	21.00	14.5
MW-80R	08/15/2011 10:23	1.08	13.22	138.0	5.88	0.20	4.200	18.30	64.6
MW-80R	08/16/2011 09:38	2.09	5.04	189.0	5.57	0.20	3.370	19.60	10.0
MW-80R	02/06/2012 13:23	58.56	4.47	243.0	5.00	0.13	2.561	13.33	4.4
MW-80R	02/06/2012 13:25	41.87	NM	252.0	4.96	0.13	2.572	12.17	1.1
MW-80R	02/06/2012 13:27	32.81	NM	260.0	4.93	0.13	2.568	12.21	1.1
MW-80R	02/06/2012 13:29	27.60	NM	266.0	4.92	0.13	2.565	12.30	0.8
MW-80R	02/06/2012 13:31	24.32	NM	271.0	4.91	0.13	2.561	12.44	0.7
MW-80R	02/06/2012 13:33	22.20	NM	275.0	4.90	0.13	2.563	12.39	1.0
MW-80R	02/06/2012 13:35	20.43	NM	278.0	4.90	0.13	2.560	12.44	0.7
MW-80R	02/06/2012 13:37	19.38	NM	281.0	4.88	0.13	2.562	12.21	0.6
MW-80R	02/06/2012 13:39	18.23	NM	285.0	4.87	0.13	2.549	12.53	0.7
MW-80R	02/06/2012 13:41	17.63	NM	288.0	4.88	0.13	2.565	12.21	0.8
MW-80R	02/06/2012 13:43	16.66	NM	290.0	4.87	0.13	2.558	12.33	0.7

Table 6a
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Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-80R	02/06/2012 13:45	15.69	NM	293.0	4.87	0.13	2.565	12.28	0.6
MW-80R	02/06/2012 13:47	14.54	NM	295.0	4.86	0.13	2.564	12.33	0.6
MW-80R	02/06/2012 13:49	13.07	NM	297.0	4.86	0.13	2.555	12.41	0.7
MW-80R	02/06/2012 13:51	11.75	NM	299.0	4.86	0.13	2.556	12.23	1.1
MW-80R	02/06/2012 13:53	10.24	NM	301.0	4.85	0.13	2.548	12.42	0.6
MW-80R	02/06/2012 13:55	9.11	NM	302.0	4.85	0.13	2.561	12.16	0.7
MW-80R	02/06/2012 13:57	7.88	NM	304.0	4.85	0.13	2.563	12.20	1.2
MW-80R	02/06/2012 13:59	6.77	NM	305.0	4.85	0.13	2.564	12.24	0.6
MW-80R	02/06/2012 14:01	5.83	NM	307.0	4.85	0.13	2.562	12.26	1.0
MW-80R	02/06/2012 14:03	5.11	NM	308.0	4.85	0.13	2.564	12.25	0.8
MW-80R	02/06/2012 14:04	4.52	NM	309.0	4.84	0.13	2.562	12.22	0.5
MW-80R	02/06/2012 14:06	3.96	NM	310.0	4.85	0.13	2.564	12.22	1.1
MW-80R	02/06/2012 14:08	3.40	NM	311.0	4.85	0.13	2.564	12.32	0.7
MW-80R	02/06/2012 14:10	2.90	NM	311.0	4.85	0.13	2.556	12.45	0.7
MW-80R	02/06/2012 14:12	2.55	5.17	312.0	4.85	0.13	2.560	12.33	0.5
MW-80R	02/06/2012 14:13	2.55	5.17	312.0	4.85	0.18	2.561	12.33	0.5
MW-80R	02/06/2012 15:11	5.94	13.40	204.0	5.31	0.14	2.697	12.83	80.8
MW-80R	02/07/2012 12:40	3.47	5.29	272.0	5.30	0.10	3.795	12.10	56.7
MW-80R	04/16/2012 13:42	1.16	5.72	218.0	5.37	0.15	2.786	24.45	11.8
MW-80R	04/16/2012 13:44	1.08	NM	236.0	5.36	0.15	2.820	17.44	5.2
MW-80R	04/16/2012 13:46	0.83	NM	244.0	5.42	0.15	2.811	16.00	5.7
MW-80R	04/16/2012 13:48	0.70	NM	251.0	5.39	0.15	2.803	16.06	6.6
MW-80R	04/16/2012 13:50	0.62	NM	256.0	5.39	0.15	2.809	15.65	6.4
MW-80R	04/16/2012 13:52	0.59	NM	260.0	5.39	0.15	2.809	15.48	7.0
MW-80R	04/16/2012 13:54	0.54	NM	263.0	5.39	0.15	2.808	15.63	7.2
MW-80R	04/16/2012 13:56	0.51	NM	266.0	5.38	0.15	2.809	15.58	7.7
MW-80R	04/16/2012 13:58	0.48	NM	268.0	5.37	0.15	2.799	15.75	8.1
MW-80R	04/16/2012 14:01	0.47	NM	270.0	5.36	0.15	2.804	15.40	9.0
MW-80R	04/16/2012 14:03	0.44	NM	272.0	5.34	0.15	2.779	15.59	10.3
MW-80R	04/16/2012 14:05	0.42	NM	274.0	5.33	0.14	2.766	15.56	10.2
MW-80R	04/16/2012 14:07	0.41	5.92	279.0	5.28	0.14	2.752	15.53	10.2
MW-80R	04/16/2012 16:15	2.33	12.92	115.0	5.93	0.17	3.191	20.31	54.1
MW-80R	04/17/2012 11:35	6.74	6.22	180.0	5.83	0.20	3.490	11.90	42.8
MW-80R	07/19/2012 09:47	1.46	5.30	76.0	5.89	0.21	3.912	19.75	17.3
MW-80R	07/19/2012 09:49	1.32	NM	73.0	5.97	0.23	4.314	19.00	6.3
MW-80R	07/19/2012 09:51	1.02	NM	73.0	6.00	0.23	4.272	18.43	5.0
MW-80R	07/19/2012 09:53	0.79	NM	73.0	6.00	0.23	4.260	18.46	5.0
MW-80R	07/19/2012 09:55	0.66	NM	75.0	5.98	0.23	4.236	18.55	5.5
MW-80R	07/19/2012 09:57	0.53	NM	77.0	5.97	0.23	4.212	18.52	4.8
MW-80R	07/19/2012 09:59	0.48	NM	80.0	5.97	0.22	4.191	18.41	5.5
MW-80R	07/19/2012 10:01	0.42	NM	82.0	5.96	0.22	4.171	18.38	6.1
MW-80R	07/19/2012 10:03	0.38	NM	85.0	5.95	0.22	4.154	18.42	6.3
MW-80R	07/19/2012 10:05	0.34	NM	87.0	5.95	0.22	4.142	18.49	6.8
MW-80R	07/19/2012 10:07	0.31	NM	89.0	5.94	0.22	4.123	18.45	6.1
MW-80R	07/19/2012 10:09	0.29	NM	91.0	5.94	0.22	4.115	18.43	6.6
MW-80R	07/19/2012 10:11	0.27	NM	92.0	5.94	0.22	4.109	18.43	7.3
MW-80R	07/19/2012 10:13	0.26	NM	93.0	5.94	0.22	4.100	18.48	6.9
MW-80R	07/19/2012 10:15	0.23	NM	94.0	5.94	0.22	4.094	18.44	9.6
MW-80R	07/19/2012 10:17	0.22	NM	95.0	5.94	0.22	4.084	18.46	7.5
MW-80R	07/19/2012 10:19	0.21	NM	96.0	5.94	0.22	4.078	18.52	8.2
MW-80R	07/19/2012 10:21	0.21	5.98	97.0	5.95	0.22	4.065	18.41	8.4
MW-80R	07/19/2012 11:16	2.42	10.48	90.0	5.93	0.21	3.887	16.79	832.0
MW-80R	07/20/2012 09:35	5.09	6.01	187.0	5.58	0.18	3.470	18.65	44.5
MW-80R	10/24/2012 08:23	6.15	NM	24.0	6.22	0.20	4.770	18.40	11.2
MW-80R	10/24/2012 08:25	5.61	NM	-10.0	6.28	0.20	4.800	18.20	14.7
MW-80R	10/24/2012 08:27	5.33	NM	-18.0	6.33	0.30	4.820	18.20	36.9
MW-80R	10/24/2012 08:29	5.33	NM	-22.0	6.49	0.30	4.830	18.20	1.4
MW-80R	10/24/2012 08:31	5.23	NM	-25.0	6.35	0.30	4.820	18.10	12.7
MW-80R	10/24/2012 08:33	5.14	NM	-27.0	6.36	0.20	4.820	18.10	34.5
MW-80R	10/24/2012 08:35	5.07	NM	-26.0	6.36	0.20	4.810	18.10	16.7
MW-80R	10/24/2012 08:37	5.05	NM	-26.0	6.36	0.20	4.780	18.10	16.2
MW-80R	10/24/2012 08:39	4.99	NM	-25.0	6.36	0.20	4.780	18.10	22.0
MW-80R	10/24/2012 08:41	4.94	NM	-24.0	6.36	0.20	4.770	18.10	20.4
MW-80R	10/24/2012 08:43	4.89	6.16	-24.0	6.35	0.20	4.760	18.09	20.5
MW-80R	10/24/2012 10:59	5.79	12.98	-30.0	6.42	0.20	4.570	18.40	41.6
MW-80R	10/25/2012 09:18	5.09	6.31	30.0	6.16	0.20	4.240	18.83	75.0
MW-80R	02/06/2013 08:59	2.83	4.81	-75.0	5.43	0.24	4.624	8.29	29.9
MW-80R	02/06/2013 09:01	1.18	NM	-167.0	4.99	0.23	4.381	9.61	31.6
MW-80R	02/06/2013 09:04	1.01	NM	-186.0	5.02	0.24	4.449	9.90	16.6
MW-80R	02/06/2013 09:06	1.38	NM	-191.0	5.03	0.24	4.465	9.84	13.6
MW-80R	02/06/2013 09:08	1.23	NM	-198.0	5.04	0.24	4.454	10.00	10.2

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-80R	02/06/2013 09:11	1.05	NM	-199.0	5.05	0.24	4.511	9.80	10.6
MW-80R	02/06/2013 09:13	0.94	NM	-201.0	5.05	0.24	4.489	9.88	9.9
MW-80R	02/06/2013 09:15	0.83	NM	-190.0	5.06	0.24	4.522	9.97	7.8
MW-80R	02/06/2013 09:18	0.77	NM	-190.0	5.06	0.24	4.521	9.76	10.9
MW-80R	02/06/2013 09:20	0.71	NM	-188.0	5.06	0.24	4.513	9.96	8.5
MW-80R	02/06/2013 09:22	0.66	NM	-185.0	5.05	0.24	4.523	9.93	10.0
MW-80R	02/06/2013 09:25	0.62	NM	-183.0	5.06	0.24	4.528	9.98	10.4
MW-80R	02/06/2013 09:27	0.59	NM	-182.0	5.05	0.24	4.525	9.84	6.7
MW-80R	02/06/2013 09:29	0.56	NM	-180.0	5.06	0.24	4.519	10.12	5.0
MW-80R	02/06/2013 09:32	0.53	NM	-178.0	5.05	0.24	4.521	10.06	6.2
MW-80R	02/06/2013 09:34	0.51	NM	-180.0	5.05	0.24	4.507	10.07	4.2
MW-80R	02/06/2013 09:36	0.50	NM	-180.0	5.06	0.24	4.542	9.96	4.9
MW-80R	02/06/2013 09:39	0.48	NM	-179.0	5.05	0.24	4.533	9.93	19.9
MW-80R	02/06/2013 09:41	0.46	NM	-182.0	5.05	0.24	4.532	9.82	4.8
MW-80R	02/06/2013 09:44	0.42	NM	-176.0	5.05	0.24	4.522	10.03	7.1
MW-80R	02/06/2013 09:46	0.41	NM	-175.0	5.05	0.24	4.549	10.05	4.1
MW-80R	02/06/2013 09:48	0.41	5.59	-172.0	5.05	0.24	4.523	10.19	5.7
MW-80R	02/06/2013 11:00	1.94	12.39	-200.0	5.48	0.29	4.984	13.37	17.8
MW-80R	02/07/2013 11:37	3.17	5.47	-178.0	5.67	0.27	51.030	11.88	13.0
MW-80R	05/14/2013 09:39	0.42	5.66	-160.0	5.19	0.22	4.209	13.14	4.6
MW-80R	05/14/2013 10:35	0.67	8.55	-80.0	4.86	0.22	4.108	12.39	81.5
MW-80R	05/15/2013 09:32	0.95	5.21	-111.0	5.06	0.26	4.789	12.17	39.0
MW-80R	10/22/2013 09:28	1.04	5.98	-371.0	5.76	0.33	6.057	17.55	2.2
MW-80R	10/22/2013 10:17	3.47	8.77	-340.0	5.46	0.31	5.705	18.24	87.1
MW-80R	10/23/2013 08:52	1.40	6.40	-347.0	5.46	0.19	3.496	18.31	63.1
MW-80R	03/20/2014 09:30	1.12	5.05	-73.0	4.87	0.14	2.770	11.20	1.3
MW-80R	03/20/2014 10:28	3.27	8.65	27.0	6.23	0.15	2.817	10.55	2742.1
MW-80R	03/21/2014 09:31	1.90	4.90	-26.0	5.13	0.15	2.893	10.08	15.1
MW-80R	05/08/2014 08:27	1.54	4.53	-243.0	4.92	0.42	7.551	11.88	3.5
MW-80R	05/08/2014 10:45	3.21	12.66	-51.0	5.50	0.10	1.880	12.48	99.9
MW-80R	05/09/2014 09:13	3.17	5.07	-79.0	5.18	0.31	5.689	11.04	10.2
MW-80R	07/29/2014 13:43	0.23	5.44	108.0	4.28	0.14	2.598	19.17	10.0
MW-80R	07/29/2014 14:42	0.40	9.10	-20.0	4.66	0.11	2.172	17.04	56.6
MW-80R	07/30/2014 12:16	0.91	5.65	234.0	4.94	0.14	2.738	17.68	12.0
MW-80R	10/20/2014 13:15	0.10	6.12	96.0	5.82	0.22	4.178	17.96	39.8
MW-80R	10/20/2014 14:42	0.78	11.69	42.0	5.89	0.23	4.314	17.60	742.8
MW-80R	03/25/2015 11:34	1.70	4.41	3.4	4.79	0.12	2.387	9.35	0.7
MW-80R	03/25/2015 12:20	6.94	12.65	230.0	5.16	0.13	2.528	10.87	215.7
MW-80R	03/26/2015 10:28	6.38	4.34	193.0	5.06	0.13	2.552	8.91	13.2
MW-80R	05/21/2015 11:50	3.91	6.00	119.0	5.56	0.35	6.406	11.54	10.3
MW-80R	05/21/2015 14:37	1.70	12.89	175.0	6.03	0.29	5.291	13.79	2586.8
MW-80R	09/25/2015 09:55	3.95	6.46	254.0	5.75	0.19	3.552	19.25	37.0
MW-80R	09/25/2015 10:36	3.57	12.25	242.0	6.65	0.22	4.153	17.63	646.6
MW-80R	11/10/2015 10:59	3.68	6.11	512.0	5.59	0.19	3.637	17.06	20.9
MW-80R	11/10/2015 14:20	2.74	13.01	-34.0	6.20	0.54	9.513	17.24	710.6
MW-80R	01/22/2016 10:13	2.21	5.29	109.0	5.00	0.15	2.854	12.83	18.2
MW-80R	01/22/2016 13:01	1.90	11.45	5.0	5.06	0.42	7.521	13.70	631.3
MW-80R	04/22/2016 10:42	2.93	6.07	12.0	5.35	0.40	7.239	11.56	14.1
MW-80R	04/22/2016 14:45	6.03	12.71	-22.0	6.49	0.40	7.228	15.81	944.3
MW-80R	06/29/2016 10:05	2.44	6.29	47.0	5.76	0.18	3.455	15.45	7.1
MW-80R	06/29/2016 13:40	8.99	12.68	-44.0	6.90	0.54	9.425	20.96	3580.4
MW-80R	10/05/2016 10:51	1.87	6.05	90.0	5.10	0.15	2.801	19.75	15.2
MW-80R	10/05/2016 14:15	0.62	10.33	-74.0	7.57	0.30	5.432	19.32	1104.1
MW-80R	01/06/2017 11:21	3.11	5.22	-10.0	5.21	0.09	1.696	13.37	24.8
MW-80R	01/06/2017 13:18	3.97	13.12	37.0	6.30	0.28	5.248	14.39	677.6
MW-80R	04/12/2017 10:38	NM	4.75	NM	NM	0.14	2.681	NM	NM
MW-80R	04/12/2017 13:15	NM	4.38	NM	NM	0.15	2.886	NM	NM
MW-80R	04/12/2017 14:17	NM	12.43	NM	NM	0.23	4.243	NM	NM
MW-80R	07/12/2017 09:27	19.00	5.57	261.0	4.39	0.28	5.219	18.98	11.2
MW-80R	07/12/2017 10:22	1.89	11.32	208.0	7.76	1.35	22.270	15.80	181.9
MW-80R	07/12/2017 10:49	0.58	5.83	222.0	5.92	2.74	42.520	16.05	10.1
MW-80R	10/05/2017 09:02	4.50	6.36	159.0	5.39	0.75	12.934	19.04	9.4
MW-80R	10/05/2017 09:08	0.45	6.26	130.0	5.72	1.39	22.990	18.22	12.0
MW-80R	10/05/2017 10:06	2.17	11.92	52.0	6.98	0.69	11.970	18.10	81.4
MW-80R	01/16/2018 13:22	3.48	4.82	234.0	7.71	0.20	3.877	9.51	6.7
MW-80R	01/16/2018 13:25	1.58	NM	238.0	7.27	0.25	4.605	10.46	3.1
MW-80R	01/16/2018 13:27	0.89	NM	245.0	6.86	0.26	4.776	11.04	3.9
MW-80R	01/16/2018 13:29	0.62	NM	253.0	6.53	0.26	4.931	11.17	3.4
MW-80R	01/16/2018 13:32	0.54	NM	258.0	6.25	0.27	5.006	11.04	4.8
MW-80R	01/16/2018 13:34	0.50	NM	261.0	6.02	0.27	5.063	11.04	2.8
MW-80R	01/16/2018 13:37	0.45	NM	262.0	5.83	0.27	5.074	11.14	3.2

Table 6a
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Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-80R	01/16/2018 13:39	0.44	NM	262.0	5.68	0.27	5.107	11.07	3.3
MW-80R	01/16/2018 13:41	0.42	NM	261.0	5.55	0.28	5.112	11.15	3.7
MW-80R	01/16/2018 13:44	0.39	NM	260.0	5.44	0.27	5.060	11.27	6.4
MW-80R	01/16/2018 13:46	0.36	NM	258.0	5.35	0.27	5.094	11.27	3.3
MW-80R	01/16/2018 13:49	0.34	NM	256.0	5.27	0.28	5.111	11.29	3.7
MW-80R	01/16/2018 13:51	0.32	NM	254.0	5.21	0.27	5.101	11.24	4.7
MW-80R	01/16/2018 13:53	0.30	NM	252.0	5.15	0.28	5.110	11.29	3.2
MW-80R	01/16/2018 13:56	0.29	NM	251.0	5.10	0.28	5.118	11.20	3.1
MW-80R	01/16/2018 13:58	0.28	NM	249.0	5.06	0.28	5.143	11.09	5.2
MW-80R	01/16/2018 14:01	0.28	NM	247.0	5.03	0.28	5.175	10.97	4.2
MW-80R	01/16/2018 14:03	0.27	NM	245.0	5.01	0.28	5.153	11.11	3.2
MW-80R	01/16/2018 14:05	0.27	NM	244.0	4.98	0.28	5.134	11.12	3.3
MW-80R	01/16/2018 14:08	0.27	NM	242.0	4.94	0.28	5.126	11.06	4.3
MW-80R	01/16/2018 14:10	0.24	5.46	241.0	4.92	0.28	5.129	11.18	5.6
MW-80R	01/19/2018 11:37	4.90	5.29	129.0	5.43	0.14	2.640	11.56	20.8
MW-80R	01/19/2018 13:25	1.64	8.04	264.0	7.37	0.27	5.064	11.98	11.0
MW-80R	01/19/2018 14:10	0.24	5.46	241.0	4.92	0.28	5.149	11.04	5.6
MW-80R	04/04/2018 09:03	6.02	4.28	306.0	7.12	0.14	2.622	10.62	6.7
MW-80R	04/04/2018 09:05	2.99	NM	329.0	6.21	0.13	2.601	10.54	2.3
MW-80R	04/04/2018 09:07	2.52	NM	346.0	5.66	0.13	2.595	10.46	2.2
MW-80R	04/04/2018 09:10	2.30	NM	357.0	5.32	0.13	2.606	10.38	2.0
MW-80R	04/04/2018 09:12	2.26	NM	369.0	5.05	0.14	2.619	10.33	1.8
MW-80R	04/04/2018 09:14	2.21	NM	376.0	4.87	0.14	2.631	10.27	2.7
MW-80R	04/04/2018 09:16	2.17	NM	380.0	4.72	0.14	2.621	10.29	2.1
MW-80R	04/04/2018 09:19	2.17	NM	383.0	4.61	0.14	2.617	10.34	2.3
MW-80R	04/04/2018 09:21	2.15	NM	387.0	4.53	0.14	2.616	10.34	2.1
MW-80R	04/04/2018 09:23	2.19	NM	391.0	4.47	0.14	2.629	10.31	2.7
MW-80R	04/04/2018 09:25	2.18	NM	394.0	4.42	0.14	2.622	10.33	1.8
MW-80R	04/04/2018 09:27	2.15	NM	397.0	4.39	0.14	2.635	10.37	2.3
MW-80R	04/04/2018 09:30	2.20	NM	400.0	4.37	0.14	2.639	10.30	2.3
MW-80R	04/04/2018 09:32	2.20	4.77	403.0	4.35	0.14	2.653	10.33	2.5
MW-80R	04/05/2018 09:32	2.20	4.77	403.0	4.35	0.14	2.661	10.21	2.5
MW-80R	04/05/2018 10:30	3.22	11.32	252.0	6.89	0.14	2.766	11.21	930.7
MW-80R	04/05/2018 12:19	2.88	5.15	180.0	5.32	0.15	2.813	10.23	11.6
MW-80R	07/09/2018 08:34	2.32	5.12	101.0	6.31	0.14	2.585	19.24	5.6
MW-80R	07/09/2018 08:36	1.96	NM	79.0	5.35	0.13	2.565	19.19	4.7
MW-80R	07/09/2018 08:38	1.82	NM	68.0	4.83	0.13	2.557	18.87	5.4
MW-80R	07/09/2018 08:40	1.52	NM	60.0	4.56	0.13	2.556	18.82	4.5
MW-80R	07/09/2018 08:42	1.29	NM	56.0	4.42	0.13	2.549	18.73	4.9
MW-80R	07/09/2018 08:45	1.30	NM	54.0	4.33	0.13	2.552	18.76	3.9
MW-80R	07/09/2018 08:46	1.32	NM	54.0	4.33	0.13	2.556	18.76	4.5
MW-80R	07/09/2018 08:48	1.35	NM	51.0	4.30	0.13	2.552	18.76	4.6
MW-80R	07/09/2018 08:50	1.35	5.39	47.0	4.30	0.13	2.568	18.76	4.7
MW-80R	07/10/2018 08:50	1.35	5.39	47.0	4.30	0.13	2.558	18.94	4.7
MW-80R	07/10/2018 09:46	8.15	12.09	22.0	6.17	0.14	2.701	15.86	67.4
MW-80R	07/10/2018 12:28	1.55	5.92	11.0	5.00	0.14	2.687	16.97	9.6
MW-0080R	11/09/2018 09:50	1.98	6.30	148.2	5.19	0.83	1.627	16.37	39.9
MW-0080R	11/09/2018 10:35	2.50	8.41	158.4	4.88	0.91	1.775	16.87	5.2
MW-0080R	11/09/2018 10:45	1.75	8.53	158.5	4.87	0.91	1.783	16.92	7.9
MW-0080R	01/10/2019 10:25	1.32	5.30	188.4	4.60	1.16	2.253	11.75	4.3
MW-0080R	01/10/2019 11:45	4.61	8.95	340.8	4.72	1.17	2.267	9.69	7.8
MW-0080R	01/10/2019 12:10	3.97	9.19	334.1	4.73	1.18	2.280	10.14	17.4
MW-80R	04/10/2019 13:20	3.41	NM	229.0	4.74	NM	1.961	11.16	7.3
MW-80R	04/10/2019 14:50	10.29	11.39	250.1	5.11	1.05	2.039	12.27	1.6
MW-80R	07/10/2019 10:05	0.68	6.04	174.8	4.94	NM	2.168	19.17	0.8
MW-80R	07/10/2019 10:10	0.53	6.17	187.0	4.75	NM	2.224	20.40	0.9
MW-80R	07/10/2019 10:15	0.49	6.23	199.3	4.66	NM	2.212	20.88	0.9
MW-80R	07/10/2019 10:20	0.46	6.29	206.4	4.61	NM	2.197	20.92	1.9
MW-80R	07/10/2019 10:25	0.41	6.33	212.4	4.59	NM	2.191	20.97	2.2
MW-80R	07/10/2019 10:30	0.40	6.37	217.6	4.56	NM	2.190	20.99	2.2
MW-80R	07/10/2019 10:35	0.39	6.42	220.5	4.55	NM	2.189	20.97	2.1
MW-80R	07/10/2019 10:40	0.43	10.42	311.4	4.61	0.94	1.840	17.82	NM
MW-80R	07/10/2019 10:45	0.41	10.35	319.3	4.61	0.97	1.898	NM	2.2
MW-80R	07/10/2019 10:50	NM	NM	NM	NM	NM	NM	17.58	1.2
MW-80R	10/14/2019 12:30	3.00	6.20	91.4	4.99	NM	1.822	19.85	2.7
MW-80R	10/14/2019 12:35	0.82	6.44	140.5	4.48	NM	1.639	19.13	3.5
MW-80R	10/14/2019 12:40	0.72	6.70	178.8	4.41	NM	1.540	19.21	3.5
MW-80R	10/14/2019 12:45	0.74	6.86	205.2	4.35	NM	1.501	19.34	2.1
MW-80R	10/14/2019 12:50	0.81	6.99	244.2	4.42	NM	1.526	19.30	1.5
MW-80R	10/14/2019 12:55	0.80	7.16	276.5	4.42	NM	1.546	19.31	1.3
MW-80R	10/14/2019 13:00	0.83	7.27	299.9	4.33	NM	1.493	19.27	0.7

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Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-80R	10/14/2019 13:05	0.88	7.39	316.7	4.31	NM	1.478	19.44	0.9
MW-80R	10/14/2019 13:10	0.87	7.49	325.1	4.32	NM	1.480	19.54	0.9
MW-80R	10/14/2019 13:15	0.86	7.60	328.2	4.37	NM	1.506	19.57	0.4
MW-80R	10/14/2019 14:50	0.25	12.15	189.7	5.26	1.03	2.020	18.38	2.4
MW-80R	10/14/2019 15:05	1.56	12.32	183.3	6.37	1.03	2.013	20.29	8.0
MW-80R	01/10/2020 09:40	1.22	NM	224.9	5.63	NM	0.754	12.38	4.6
MW-80R	01/10/2020 11:20	0.57	11.41	224.6	5.45	0.39	0.783	13.02	2.3
MW-80R	04/15/2020 09:15	1.38	NM	231.8	5.09	NM	1.352	11.21	12.8
MW-80R	04/16/2020 08:55	4.41	4.46	202.2	5.48	1.03	2.001	11.33	7.7
MW-84RR	07/20/2010 08:56	2.02	3.62	88.0	5.92	0.00	0.660	NM	305.0
MW-84RR	07/20/2010 08:58	1.30	3.62	100.0	5.72	0.00	0.650	NM	190.0
MW-84RR	07/20/2010 09:00	0.87	3.64	104.0	5.66	0.00	0.640	NM	51.0
MW-84RR	07/20/2010 09:02	0.49	3.64	108.0	56.30	0.00	0.640	NM	108.0
MW-84RR	07/20/2010 09:04	0.43	3.66	109.0	5.61	0.00	0.640	NM	91.3
MW-84RR	07/20/2010 09:06	0.31	3.66	107.0	5.59	0.00	0.650	NM	46.3
MW-84RR	07/20/2010 09:08	0.21	3.71	91.0	5.59	0.00	0.650	NM	27.3
MW-84RR	07/20/2010 09:10	0.10	3.71	76.0	5.59	0.00	0.660	NM	28.2
MW-84RR	07/20/2010 09:12	0.00	3.71	60.0	5.61	0.00	0.680	NM	24.3
MW-84RR	07/20/2010 09:14	0.00	3.71	55.0	5.62	0.00	0.680	NM	25.5
MW-84RR	07/20/2010 09:16	0.00	3.75	54.0	5.62	0.00	0.690	NM	23.5
MW-84RR	07/20/2010 09:18	0.00	3.75	56.0	5.63	0.00	0.710	NM	19.2
MW-84RR	07/20/2010 09:20	0.00	3.78	54.0	5.63	0.00	0.710	NM	20.2
MW-84RR	07/20/2010 10:11	0.89	7.92	82.0	5.34	0.00	0.700	NM	248.0
MW-84RR	07/21/2010 08:20	0.00	4.36	6.0	5.56	0.00	0.663	NM	61.8
MW-84RR	11/01/2010 09:56	5.93	3.66	180.0	5.95	0.10	2.280	14.40	27.3
MW-84RR	11/01/2010 09:58	2.67	3.66	206.0	5.69	0.10	2.310	15.10	12.0
MW-84RR	11/01/2010 10:00	2.63	3.71	210.0	5.67	0.10	2.310	15.10	9.8
MW-84RR	11/01/2010 10:02	2.47	3.71	215.0	5.65	0.10	2.320	15.20	7.2
MW-84RR	11/01/2010 10:04	2.42	3.76	217.0	5.65	0.10	2.320	15.30	5.8
MW-84RR	11/01/2010 10:06	2.16	3.76	220.0	5.65	0.10	2.320	15.50	4.0
MW-84RR	11/01/2010 10:08	2.44	3.82	223.0	5.64	0.10	2.330	15.50	3.7
MW-84RR	11/01/2010 10:10	2.08	3.82	225.0	5.63	0.10	2.330	15.60	3.2
MW-84RR	11/01/2010 10:12	1.98	3.89	227.0	5.63	0.10	2.340	15.60	2.8
MW-84RR	11/01/2010 10:14	1.96	3.89	228.0	5.62	0.10	2.340	15.70	3.9
MW-84RR	11/01/2010 10:16	1.90	3.97	230.0	5.61	0.10	2.350	15.60	5.9
MW-84RR	11/01/2010 10:18	1.91	3.97	231.0	5.61	0.10	2.350	15.60	5.9
MW-84RR	11/01/2010 10:20	1.87	4.02	230.0	5.61	0.10	2.350	15.70	5.7
MW-84RR	11/01/2010 11:10	0.90	8.66	134.0	5.60	0.10	1.900	17.40	2.0
MW-84RR	11/02/2010 08:55	1.18	4.26	132.0	5.30	0.10	1.650	17.20	23.9
MW-84RR	03/14/2011 08:55	1.16	16.00	207.0	5.85	0.05	1.093	7.83	4.3
MW-84RR	03/14/2011 10:33	2.89	8.75	125.0	5.87	0.05	1.053	9.29	25.5
MW-84RR	03/15/2011 09:48	4.65	3.21	212.0	5.56	0.11	1.490	8.80	6.7
MW-84RR	05/02/2011 08:26	2.35	2.37	190.0	5.94	0.07	1.145	14.62	17.8
MW-84RR	05/02/2011 08:28	1.37	NM	169.0	5.98	0.07	1.110	13.56	7.8
MW-84RR	05/02/2011 08:30	0.97	NM	159.0	5.99	0.07	1.094	13.09	7.1
MW-84RR	05/02/2011 08:32	0.88	NM	153.0	5.99	0.07	1.087	12.69	7.1
MW-84RR	05/02/2011 08:34	0.96	NM	150.0	6.00	0.07	1.086	12.65	7.3
MW-84RR	05/02/2011 08:36	1.06	NM	148.0	6.00	0.07	1.087	12.66	6.7
MW-84RR	05/02/2011 08:38	1.11	NM	147.0	6.00	0.07	1.089	12.65	8.7
MW-84RR	05/02/2011 08:39	1.06	2.97	146.0	6.00	0.07	1.092	12.65	7.1
MW-84RR	05/02/2011 08:40	1.06	2.97	146.0	6.00	0.07	1.429	12.65	7.1
MW-84RR	05/02/2011 09:57	2.07	3.16	113.0	5.65	0.08	1.160	11.90	10.1
MW-84RR	05/02/2011 10:18	4.47	11.50	103.0	6.01	0.06	1.125	11.03	16.7
MW-84RR	08/09/2011 11:01	-0.57	3.43	-48.0	6.58	0.06	1.347	27.57	30.2
MW-84RR	08/09/2011 11:03	-0.79	NM	-52.0	6.60	0.07	1.250	21.88	2.9
MW-84RR	08/09/2011 11:05	1.16	NM	-54.0	6.60	0.07	1.227	21.49	2.9
MW-84RR	08/09/2011 11:07	0.67	NM	-54.0	6.60	0.07	1.216	21.01	2.8
MW-84RR	08/09/2011 11:10	0.47	NM	-55.0	6.59	0.07	1.228	21.53	3.1
MW-84RR	08/09/2011 11:12	0.40	NM	-55.0	6.58	0.07	1.229	21.50	3.1
MW-84RR	08/09/2011 11:14	0.32	3.69	-56.0	6.58	0.07	1.320	21.75	3.4
MW-84RR	08/09/2011 13:37	4.34	10.60	-8.0	6.83	0.05	1.029	19.20	4.0
MW-84RR	08/10/2011 10:40	0.82	3.87	60.0	6.14	0.05	0.921	21.04	20.9
MW-84RR	10/31/2011 09:51	-0.66	1.57	131.0	6.11	0.04	0.739	13.31	8.5
MW-84RR	10/31/2011 12:10	8.00	11.06	69.0	6.48	0.05	0.897	17.26	4.9
MW-84RR	11/01/2011 09:58	4.30	1.91	169.0	6.06	0.04	0.856	14.56	10.0
MW-84RR	02/06/2012 08:57	-0.87	3.38	160.0	6.01	0.06	1.186	8.06	9.9
MW-84RR	02/06/2012 10:54	-0.81	9.97	110.0	6.40	0.05	1.044	9.13	12.0
MW-84RR	02/07/2012 11:20	3.26	3.82	177.0	5.83	0.10	1.180	10.60	38.0
MW-84RR	04/16/2012 08:20	2.61	3.31	196.0	5.92	0.09	1.718	15.59	53.8
MW-84RR	04/16/2012 08:21	1.21	NM	209.0	5.93	0.09	1.709	14.26	12.2
MW-84RR	04/16/2012 08:23	0.88	NM	216.0	5.92	0.09	1.709	13.33	7.0

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-84RR	04/16/2012 08:25	0.72	NM	220.0	5.91	0.09	1.709	13.16	13.9
MW-84RR	04/16/2012 08:27	0.64	NM	221.0	5.90	0.09	1.710	13.07	8.1
MW-84RR	04/16/2012 08:29	0.60	NM	222.0	5.90	0.09	1.709	13.18	8.1
MW-84RR	04/16/2012 08:31	0.55	NM	223.0	5.90	0.09	1.706	13.09	9.2
MW-84RR	04/16/2012 08:33	0.53	NM	223.0	5.89	0.09	1.708	13.11	10.6
MW-84RR	04/16/2012 08:35	0.53	NM	223.0	5.89	0.09	1.711	13.06	13.1
MW-84RR	04/16/2012 08:36	0.52	NM	223.0	5.89	0.09	1.709	13.15	10.8
MW-84RR	04/16/2012 08:38	0.52	NM	223.0	5.89	0.09	1.706	13.25	13.4
MW-84RR	04/16/2012 08:40	0.51	NM	222.0	5.89	0.09	1.706	13.36	18.8
MW-84RR	04/16/2012 08:42	0.50	NM	222.0	5.89	0.09	1.707	13.34	12.2
MW-84RR	04/16/2012 08:44	0.51	NM	222.0	5.90	0.09	1.707	13.37	24.2
MW-84RR	04/16/2012 08:46	0.50	NM	222.0	5.89	0.09	1.707	13.35	15.7
MW-84RR	04/16/2012 08:48	0.48	NM	222.0	5.90	0.09	1.704	13.25	20.2
MW-84RR	04/16/2012 08:49	0.47	NM	222.0	5.89	0.09	1.704	13.41	13.4
MW-84RR	04/16/2012 08:51	0.45	NM	222.0	5.89	0.09	1.703	13.43	15.4
MW-84RR	04/16/2012 08:53	0.45	NM	221.0	5.89	0.09	1.708	13.32	14.0
MW-84RR	04/16/2012 08:55	0.44	4.02	221.0	5.90	0.09	1.707	13.35	14.6
MW-84RR	04/16/2012 08:57	0.44	4.02	221.0	5.90	0.09	1.707	13.35	14.6
MW-84RR	04/16/2012 11:31	3.79	9.46	106.0	6.13	0.07	1.326	14.71	4.6
MW-84RR	04/17/2012 09:51	3.10	3.59	131.0	5.71	0.00	0.809	11.04	9.5
MW-84RR	07/23/2012 10:22	0.99	3.17	5.0	6.24	0.06	1.101	27.79	28.6
MW-84RR	07/23/2012 10:24	0.76	NM	8.0	6.24	0.05	1.095	24.84	5.1
MW-84RR	07/23/2012 10:26	0.50	NM	11.0	6.24	0.05	1.087	22.93	5.4
MW-84RR	07/23/2012 10:28	0.41	NM	12.0	6.24	0.05	1.081	23.02	5.8
MW-84RR	07/23/2012 10:31	0.35	NM	13.0	6.24	0.05	1.086	22.92	5.1
MW-84RR	07/23/2012 10:33	0.30	NM	14.0	6.25	0.05	1.083	22.77	5.5
MW-84RR	07/23/2012 10:35	0.26	NM	14.0	6.25	0.05	1.082	22.94	5.2
MW-84RR	07/23/2012 10:37	0.25	NM	15.0	6.25	0.05	1.084	23.20	8.8
MW-84RR	07/23/2012 10:39	0.23	NM	16.0	6.24	0.05	1.087	23.20	6.1
MW-84RR	07/23/2012 10:41	0.22	NM	17.0	6.24	0.05	1.085	23.24	5.9
MW-84RR	07/23/2012 10:43	0.21	NM	17.0	6.24	0.05	1.085	23.59	7.5
MW-84RR	07/23/2012 10:45	0.21	NM	17.0	6.24	0.05	1.086	23.72	5.8
MW-84RR	07/23/2012 10:47	0.20	NM	18.0	6.24	0.05	1.088	23.79	6.4
MW-84RR	07/23/2012 10:49	0.19	NM	19.0	6.24	0.05	1.088	23.72	6.7
MW-84RR	07/23/2012 10:51	0.19	3.82	19.0	6.24	0.05	1.085	23.81	6.2
MW-84RR	07/23/2012 10:52	0.19	3.82	19.0	6.24	0.05	1.085	23.81	6.2
MW-84RR	07/23/2012 13:18	4.64	11.58	-11.0	6.39	0.05	0.912	19.91	6.0
MW-84RR	07/24/2012 10:00	3.86	3.54	28.0	6.10	0.05	0.910	20.86	25.4
MW-84RR	11/14/2012 15:00	6.14	1.30	97.0	6.22	0.10	1.540	14.60	8.7
MW-84RR	11/14/2012 15:02	5.91	NM	96.0	6.25	0.10	1.540	14.50	9.8
MW-84RR	11/14/2012 15:04	5.80	NM	97.0	6.25	0.10	1.550	13.90	9.3
MW-84RR	11/14/2012 15:06	5.76	NM	98.0	6.24	0.10	1.550	13.40	10.1
MW-84RR	11/14/2012 15:08	5.59	NM	97.0	6.24	0.10	1.540	13.30	11.0
MW-84RR	11/14/2012 15:10	5.44	NM	97.0	6.24	0.10	1.540	13.10	12.3
MW-84RR	11/14/2012 15:12	5.38	NM	98.0	6.24	0.10	1.540	13.00	11.8
MW-84RR	11/14/2012 15:14	5.34	1.97	100.0	6.24	0.10	1.550	12.83	11.5
MW-84RR	11/14/2012 16:35	9.76	11.12	44.0	6.66	0.10	1.470	13.48	74.4
MW-84RR	11/15/2012 10:51	6.83	2.34	135.0	6.10	0.10	1.500	14.72	9.3
MW-84RR	02/13/2013 08:40	6.12	1.27	-149.0	6.30	0.08	1.553	9.36	17.4
MW-84RR	02/13/2013 08:42	5.67	NM	-167.0	6.20	0.07	1.442	7.40	16.3
MW-84RR	02/13/2013 08:45	5.25	NM	-167.0	6.15	0.07	1.445	7.89	19.2
MW-84RR	02/13/2013 08:47	5.17	NM	-170.0	6.13	0.07	1.480	7.95	15.0
MW-84RR	02/13/2013 08:49	5.24	NM	-174.0	6.13	0.07	1.462	7.60	13.5
MW-84RR	02/13/2013 08:52	5.18	NM	-171.0	6.13	0.07	1.462	7.76	16.4
MW-84RR	02/13/2013 08:54	5.11	NM	-170.0	6.14	0.07	1.454	8.19	12.6
MW-84RR	02/13/2013 08:56	5.08	NM	-170.0	6.14	0.07	1.462	8.26	18.9
MW-84RR	02/13/2013 08:59	5.11	NM	-171.0	6.15	0.07	1.478	8.25	14.5
MW-84RR	02/13/2013 09:01	5.08	NM	-172.0	6.15	0.07	1.488	8.30	11.9
MW-84RR	02/13/2013 09:04	5.01	NM	-173.0	6.15	0.07	1.498	8.42	12.3
MW-84RR	02/13/2013 09:06	4.96	1.97	-174.0	6.16	0.08	1.505	8.78	11.9
MW-84RR	02/13/2013 11:55	6.45	11.69	-142.0	6.44	0.11	2.205	10.62	18.5
MW-84RR	02/14/2013 09:32	5.40	2.21	-154.0	6.25	0.10	1.989	6.91	19.9
MW-84RR	05/13/2013 13:34	0.37	1.01	-192.0	6.34	0.10	1.940	16.07	10.4
MW-84RR	05/13/2013 16:31	5.64	11.39	-86.0	6.90	0.07	1.373	12.51	24.4
MW-84RR	05/14/2013 11:27	3.64	2.58	-99.0	6.08	0.10	1.938	14.26	13.5
MW-84RR	05/14/2013 13:34	0.37	1.01	-192.0	6.34	0.10	1.940	16.07	10.4
MW-84RR	05/14/2013 16:31	5.64	11.39	-86.0	6.90	0.07	1.373	12.51	24.4
MW-84RR	05/15/2013 11:27	3.64	2.58	-99.0	6.08	0.10	1.938	14.26	13.5
MW-84RR	10/24/2013 12:33	1.12	3.70	-352.0	6.41	0.20	3.831	16.58	6.3
MW-84RR	10/24/2013 15:31	5.63	11.72	-244.0	6.73	0.19	3.580	16.46	9.9
MW-84RR	10/25/2013 11:20	2.05	4.20	-336.0	6.30	0.21	3.970	17.69	11.1

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-84RR	03/19/2014 09:50	1.30	2.26	-51.0	6.14	0.07	1.436	7.70	1.6
MW-84RR	03/19/2014 12:25	4.81	11.09	81.0	7.15	0.07	1.347	8.70	27.8
MW-84RR	03/20/2014 13:05	10.75	0.89	-66.0	7.57	0.04	0.862	7.52	18.0
MW-84RR	05/07/2014 09:05	1.34	2.83	-266.0	6.09	0.09	1.723	12.97	6.5
MW-84RR	05/07/2014 11:49	4.30	12.00	-192.0	6.81	0.06	1.180	14.57	179.9
MW-84RR	05/08/2014 13:08	3.90	3.41	-149.0	6.31	0.10	1.886	11.72	5.9
MW-84RR	07/28/2014 09:02	0.29	3.52	163.0	5.74	0.06	1.162	18.81	10.9
MW-84RR	07/28/2014 11:51	1.78	10.88	189.0	6.13	0.05	1.094	22.53	67.7
MW-84RR	07/29/2014 09:29	0.50	3.64	200.0	6.00	0.05	0.975	19.08	8.1
MW-84RR	10/15/2014 12:23	1.31	3.60	-98.0	6.26	0.04	0.840	19.95	14.1
MW-84RR	10/15/2014 13:47	2.79	11.13	-73.0	6.52	0.05	0.946	19.41	347.0
MW-84RR	10/16/2014 10:53	5.54	1.48	82.0	6.07	0.05	1.042	18.02	11.1
MW-84RR	03/16/2015 09:46	2.82	0.96	-139.0	6.77	0.03	0.712	5.58	-2.7
MW-84RR	03/16/2015 11:03	7.47	11.52	-54.0	6.96	0.04	0.789	7.65	2809.2
MW-84RR	03/17/2015 09:39	2.64	1.24	-113.0	6.75	0.06	1.293	5.75	6.6
MW-84RR	05/20/2015 10:02	1.63	3.77	34.0	6.14	0.15	2.880	11.77	3.4
MW-84RR	05/20/2015 11:45	3.70	11.73	-11.0	6.32	0.11	2.114	15.94	1534.7
MW-84RR	09/23/2015 09:33	1.75	4.23	100.0	6.16	0.05	1.039	19.17	11.5
MW-84RR	09/23/2015 10:25	8.49	9.88	1.0	6.91	0.06	1.109	17.99	32.0
MW-84RR	11/06/2015 10:10	1.03	3.74	29.0	6.00	0.34	6.178	16.78	5.3
MW-84RR	11/06/2015 11:45	4.88	10.45	25.0	6.74	0.15	2.790	17.65	15.5
MW-84RR	01/21/2016 10:20	4.72	2.81	208.0	5.92	0.08	1.589	10.33	11.2
MW-84RR	01/21/2016 11:45	2.97	11.09	31.0	6.26	0.28	5.121	12.15	187.0
MW-84RR	04/19/2016 09:50	2.82	3.71	85.0	5.91	0.09	1.732	10.97	11.4
MW-84RR	04/19/2016 10:21	6.39	11.03	27.0	6.42	0.27	5.038	13.00	1178.4
MW-84RR	06/28/2016 10:58	1.69	3.91	-2.0	6.18	0.06	1.119	17.10	6.4
MW-84RR	06/28/2016 14:15	4.42	11.96	-97.0	6.51	0.31	5.619	19.52	29.8
MW-84RR	10/04/2016 10:30	2.64	4.65	35.0	6.12	0.05	0.908	19.79	12.9
MW-84RR	10/04/2016 14:57	3.85	12.01	-59.0	8.06	0.18	3.465	20.07	24.6
MW-84RR	01/04/2017 11:18	3.11	7.86	36.0	6.85	0.05	1.022	10.43	142.1
MW-84RR	01/04/2017 11:39	NM	1.21	29.0	6.03	0.04	0.803	8.83	16.6
MW-84RR	04/11/2017 10:23	NM	1.49	NM	NM	0.05	1.099	NM	NM
MW-84RR	04/11/2017 11:11	NM	0.84	NM	NM	0.10	1.907	NM	NM
MW-84RR	04/11/2017 12:15	NM	11.53	NM	NM	0.16	3.000	NM	NM
MW-84RR	07/06/2017 09:24	0.10	3.84	87.0	6.19	0.18	3.399	18.74	6.2
MW-84RR	07/06/2017 09:33	1.50	3.95	13.0	5.97	0.06	1.171	17.56	25.9
MW-84RR	07/06/2017 10:26	5.64	10.12	144.0	8.02	0.16	2.994	17.70	183.9
MW-84RR	10/03/2017 08:41	0.55	3.49	166.0	6.34	0.90	15.430	17.87	14.1
MW-84RR	10/03/2017 09:40	4.85	11.15	154.0	6.98	0.62	10.890	18.58	60.5
MW-84RR	10/03/2017 10:42	0.19	4.11	132.0	6.19	0.61	11.750	10.73	12.6
MW-84RR	01/16/2018 09:30	8.88	0.85	162.0	8.17	0.08	1.619	8.02	75.7
MW-84RR	01/16/2018 09:32	5.52	NM	151.0	8.13	0.12	2.249	8.45	36.0
MW-84RR	01/16/2018 09:34	4.81	NM	149.0	7.97	0.13	2.593	8.34	26.7
MW-84RR	01/16/2018 09:37	4.32	NM	148.0	7.86	0.15	2.840	8.18	21.7
MW-84RR	01/16/2018 09:39	4.11	NM	148.0	7.78	0.16	3.003	8.20	22.5
MW-84RR	01/16/2018 09:41	4.00	NM	148.0	7.70	0.16	3.130	8.27	26.2
MW-84RR	01/16/2018 09:43	4.05	NM	148.0	7.62	0.17	3.198	8.08	25.1
MW-84RR	01/16/2018 09:45	4.06	NM	149.0	7.56	0.17	3.233	8.03	28.0
MW-84RR	01/16/2018 09:47	4.09	NM	150.0	7.51	0.17	3.289	7.97	22.5
MW-84RR	01/16/2018 09:50	4.05	NM	150.0	7.46	0.17	3.333	8.08	21.7
MW-84RR	01/16/2018 09:52	4.03	2.02	151.0	7.42	0.18	3.379	8.10	20.6
MW-84RR	01/19/2018 09:49	8.85	2.23	147.0	6.27	0.08	1.672	6.08	14.3
MW-84RR	01/19/2018 09:52	4.03	2.02	151.0	7.42	0.18	3.393	7.96	20.6
MW-84RR	01/19/2018 10:35	12.30	11.34	236.0	7.78	0.17	3.303	9.02	103.1
MW-84RR	04/02/2018 14:03	7.36	NM	124.0	7.26	0.06	1.155	8.20	57.0
MW-84RR	04/02/2018 14:05	2.30	NM	109.0	7.25	0.06	1.216	8.80	37.1
MW-84RR	04/02/2018 14:07	1.50	NM	109.0	7.07	0.06	1.250	8.99	33.1
MW-84RR	04/02/2018 14:09	1.22	NM	108.0	6.99	0.06	1.221	8.93	33.9
MW-84RR	04/02/2018 14:11	1.05	NM	106.0	6.90	0.06	1.177	8.98	232.1
MW-84RR	04/02/2018 14:13	0.99	NM	105.0	6.83	0.06	1.134	8.98	37.8
MW-84RR	04/02/2018 14:15	0.95	NM	105.0	6.76	0.06	1.136	9.10	31.8
MW-84RR	04/02/2018 14:16	0.92	NM	105.0	6.70	0.06	1.136	9.11	25.9
MW-84RR	04/02/2018 14:18	0.87	NM	105.0	6.66	0.06	1.142	9.13	30.6
MW-84RR	04/02/2018 14:20	0.86	NM	106.0	6.61	0.06	1.131	9.08	15.2
MW-84RR	04/02/2018 14:22	3.91	NM	106.0	6.57	0.06	1.149	9.25	10.3
MW-84RR	04/02/2018 14:24	1.39	NM	105.0	6.54	0.06	1.146	9.17	10.7
MW-84RR	04/02/2018 14:26	1.05	NM	105.0	6.51	0.06	1.146	9.15	8.4
MW-84RR	04/02/2018 14:28	0.92	NM	105.0	6.48	0.06	1.137	9.07	9.3
MW-84RR	04/02/2018 14:30	0.87	NM	105.0	6.45	0.06	1.134	9.15	8.9
MW-84RR	04/02/2018 14:32	0.89	NM	106.0	6.43	0.06	1.147	9.15	13.0
MW-84RR	04/02/2018 14:34	0.83	NM	106.0	6.40	0.06	1.138	9.18	10.3

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-84RR	04/02/2018 14:36	0.81	NM	107.0	6.38	0.06	1.134	9.19	7.4
MW-84RR	04/02/2018 14:37	0.80	NM	107.0	6.35	0.06	1.135	9.17	8.8
MW-84RR	04/02/2018 14:39	0.80	NM	107.0	6.34	0.06	1.139	9.17	13.7
MW-84RR	04/02/2018 14:41	0.78	NM	108.0	6.31	0.06	1.134	9.27	33.4
MW-84RR	04/02/2018 14:43	0.77	NM	108.0	6.30	0.06	1.132	9.35	7.9
MW-84RR	04/02/2018 14:45	0.82	NM	108.0	6.29	0.06	1.148	9.50	13.1
MW-84RR	04/02/2018 14:47	0.75	NM	108.0	6.27	0.06	1.133	9.27	11.4
MW-84RR	04/02/2018 14:49	0.74	NM	108.0	6.26	0.06	1.139	9.32	6.5
MW-84RR	04/02/2018 14:51	0.74	NM	108.0	6.24	0.06	1.134	9.22	7.3
MW-84RR	04/03/2018 11:38	4.81	0.48	176.0	7.70	0.05	1.078	8.10	3.5
MW-84RR	04/03/2018 14:51	0.74	1.36	108.0	6.24	0.06	1.145	8.86	7.3
MW-84RR	04/03/2018 15:30	6.32	11.74	90.0	7.44	0.06	1.171	9.31	159.1
MW-84RR	07/09/2018 12:23	2.45	2.91	-6.0	7.14	0.06	1.144	28.26	12.8
MW-84RR	07/09/2018 12:25	1.49	NM	-84.0	6.78	0.06	1.223	20.37	7.4
MW-84RR	07/09/2018 12:27	1.10	NM	-94.0	6.57	0.06	1.226	20.10	7.3
MW-84RR	07/09/2018 12:29	1.00	NM	-98.0	6.43	0.06	1.229	19.81	7.5
MW-84RR	07/09/2018 12:32	0.89	NM	-101.0	6.34	0.06	1.224	19.86	7.0
MW-84RR	07/09/2018 12:34	0.79	NM	-102.0	6.27	0.06	1.224	19.94	6.5
MW-84RR	07/09/2018 12:36	0.74	NM	-104.0	6.23	0.06	1.224	19.92	8.7
MW-84RR	07/09/2018 12:38	0.73	NM	-106.0	6.19	0.06	1.217	19.85	7.5
MW-84RR	07/09/2018 12:40	0.73	NM	-107.0	6.17	0.06	1.222	19.88	7.6
MW-84RR	07/09/2018 12:42	0.71	3.36	-107.0	6.15	0.06	1.217	20.47	8.0
MW-84RR	07/10/2018 12:42	0.71	3.36	-107.0	6.15	0.06	1.212	20.65	8.0
MW-84RR	07/10/2018 12:57	1.78	4.09	-41.0	6.24	0.06	1.104	18.80	20.4
MW-84RR	07/10/2018 14:16	3.31	10.94	-104.0	6.86	0.06	1.207	19.08	97.5
MW-84RR	04/11/2019 13:10	4.90	NM	70.1	6.35	NM	1.535	9.98	11.4
MW-84RR	04/11/2019 14:36	6.77	11.67	63.5	6.55	0.55	1.099	9.97	13.1
MW-84RR	07/11/2019 10:05	2.11	3.10	27.2	6.84	NM	1.287	17.97	0.3
MW-84RR	07/11/2019 10:10	1.60	3.17	32.1	6.60	NM	1.258	17.77	0.9
MW-84RR	07/11/2019 10:15	0.85	3.19	64.8	6.14	NM	1.205	18.53	0.4
MW-84RR	07/11/2019 10:20	0.65	3.22	91.0	6.00	NM	1.179	18.55	0.9
MW-84RR	07/11/2019 10:25	0.58	3.26	102.3	5.98	NM	1.166	18.53	1.6
MW-84RR	07/11/2019 10:30	0.56	3.27	109.4	5.97	NM	1.165	18.52	1.6
MW-84RR	07/11/2019 10:35	0.57	3.29	111.2	5.96	NM	1.164	18.51	1.5
MW-84RR	07/11/2019 10:40	3.07	11.04	77.5	6.14	0.50	1.002	17.84	NM
MW-84RR	07/11/2019 10:45	3.56	11.12	73.4	6.17	0.49	0.995	NM	1.0
MW-84RR	07/11/2019 10:50	NM	NM	NM	NM	NM	NM	17.61	2.6
MW-84RR	10/14/2019 09:55	1.39	3.34	-60.6	6.64	NM	0.888	17.96	10.4
MW-84RR	10/14/2019 10:00	0.69	3.65	-58.4	6.45	NM	0.828	17.91	3.3
MW-84RR	10/14/2019 10:05	0.71	3.74	-54.0	6.39	NM	0.785	18.05	2.8
MW-84RR	10/14/2019 10:10	0.80	3.86	-59.2	6.36	NM	0.775	18.13	1.9
MW-84RR	10/14/2019 10:15	0.92	4.00	-61.7	6.38	NM	0.772	18.40	1.9
MW-84RR	10/14/2019 10:20	1.09	4.11	-64.0	6.38	NM	0.771	18.45	1.8
MW-84RR	10/14/2019 10:25	1.29	4.21	-66.5	6.38	NM	0.771	18.40	1.8
MW-84RR	10/14/2019 10:30	1.84	4.40	-68.5	6.38	NM	0.771	18.44	2.0
MW-84RR	10/14/2019 10:35	2.40	4.45	-68.0	6.37	NM	0.771	18.50	2.0
MW-84RR	10/14/2019 10:40	3.23	4.53	-70.2	6.36	NM	0.771	18.86	1.9
MW-84RR	10/15/2019 08:15	3.59	3.97	116.9	6.29	0.31	0.628	18.22	16.4
MW-84RR	10/15/2019 08:35	4.63	4.89	44.4	6.28	0.25	0.517	17.86	20.9
MW-84RR	01/16/2020 10:20	1.24	NM	153.0	6.15	NM	0.837	10.90	14.0
MW-84RR	01/17/2020 08:35	8.09	2.22	240.8	6.56	0.37	0.751	8.88	7.7
MW-84RR	04/15/2020 12:35	0.39	NM	114.5	6.15	NM	0.782	11.66	13.0
MW-84RR	04/16/2020 09:35	6.35	0.50	146.8	6.29	0.46	0.918	10.81	5.3
MW-84RR	02/06/2012 08:23	-0.68	2.82	199.0	6.09	0.06	1.266	8.30	157.6
MW-84RR	02/06/2012 08:25	-0.77	NM	200.0	6.09	0.06	1.240	7.68	61.9
MW-84RR	02/06/2012 08:27	-0.78	NM	199.0	6.06	0.06	1.243	7.78	34.7
MW-84RR	02/06/2012 08:29	-0.79	NM	198.0	6.05	0.06	1.247	7.78	23.0
MW-84RR	02/06/2012 08:31	-0.80	NM	197.0	6.04	0.06	1.243	7.93	24.3
MW-84RR	02/06/2012 08:33	-0.81	NM	196.0	6.03	0.06	1.244	7.93	16.9
MW-84RR	02/06/2012 08:35	-0.82	NM	194.0	6.03	0.06	1.248	7.83	12.8
MW-84RR	02/06/2012 08:37	-0.82	NM	193.0	6.02	0.06	1.241	7.92	16.2
MW-84RR	02/06/2012 08:39	-0.83	NM	191.0	6.02	0.06	1.240	7.90	14.0
MW-84RR	02/06/2012 08:41	-0.84	NM	189.0	6.02	0.06	1.238	7.85	15.4
MW-84RR	02/06/2012 08:43	-0.85	NM	186.0	6.01	0.06	1.238	8.03	10.5
MW-84RR	02/06/2012 08:45	-0.85	NM	183.0	6.01	0.06	1.238	8.13	8.6
MW-84RR	02/06/2012 08:47	-0.84	NM	179.0	6.00	0.06	1.242	8.32	14.9
MW-84RR	02/06/2012 08:49	-0.86	NM	176.0	6.00	0.06	1.246	8.08	10.1
MW-84RR	02/06/2012 08:51	-0.86	NM	173.0	6.00	0.06	1.235	8.18	11.4
MW-84RR	02/06/2012 08:52	-0.86	NM	170.0	6.00	0.06	1.232	8.15	9.3
MW-84RR	02/06/2012 08:54	-0.87	NM	165.0	6.01	0.06	1.217	8.15	9.6
MW-84RR	02/06/2012 08:56	-0.87	3.83	157.0	6.02	0.06	1.186	8.06	9.9

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-86R	11/04/2009 08:33	1.97	6.22	161.0	5.88	0.10	2.470	14.30	206.0
MW-86R	11/04/2009 08:35	1.39	6.22	143.0	5.95	0.10	2.480	13.90	182.0
MW-86R	11/04/2009 08:37	1.38	6.25	130.0	6.00	0.10	2.500	13.40	179.0
MW-86R	11/04/2009 08:39	1.61	6.25	121.0	6.02	0.10	2.540	12.50	116.0
MW-86R	11/04/2009 08:41	1.85	6.28	115.0	6.06	0.10	2.540	11.80	101.0
MW-86R	11/04/2009 08:43	1.77	6.28	110.0	6.07	0.10	2.500	11.80	107.0
MW-86R	11/04/2009 08:45	1.56	6.32	106.0	6.07	0.10	2.480	12.00	91.6
MW-86R	11/04/2009 08:47	1.49	6.32	105.0	6.07	0.10	2.480	12.00	89.8
MW-86R	11/04/2009 08:49	1.40	6.35	102.0	6.07	0.10	2.470	12.10	85.8
MW-86R	11/04/2009 08:51	1.44	6.35	101.0	6.07	0.10	2.480	12.00	82.0
MW-86R	11/04/2009 08:53	1.46	6.36	101.0	6.06	0.10	2.480	12.00	8.6
MW-86R	11/04/2009 08:55	1.44	6.36	100.0	6.06	0.10	2.470	12.10	79.1
MW-86R	11/04/2009 08:57	1.44	6.38	99.0	6.06	0.10	2.470	12.10	79.8
MW-86R	07/20/2010 08:07	1.66	6.21	-39.0	5.89	0.10	2.400	NM	32.2
MW-86R	07/20/2010 08:09	0.90	6.21	-43.0	5.93	0.10	2.400	NM	26.1
MW-86R	07/20/2010 08:11	0.37	6.19	-40.0	5.88	0.10	2.400	NM	19.9
MW-86R	07/20/2010 08:13	0.10	6.21	-37.0	5.86	0.10	2.400	NM	18.1
MW-86R	07/20/2010 08:15	0.06	6.35	-37.0	5.86	0.10	2.400	NM	15.2
MW-86R	07/20/2010 08:17	0.00	6.35	-38.0	5.90	0.10	2.400	NM	11.4
MW-86R	07/20/2010 08:19	0.00	6.43	-40.0	5.94	0.10	2.000	NM	13.5
MW-86R	07/20/2010 08:21	0.00	6.43	-43.0	5.97	0.10	2.400	NM	14.0
MW-86R	07/20/2010 08:23	0.00	6.49	-44.0	6.00	0.10	2.400	NM	12.7
MW-86R	07/20/2010 08:25	0.00	6.49	-46.0	6.01	0.10	2.400	NM	14.3
MW-86R	07/20/2010 08:27	0.00	6.57	-46.0	6.03	0.10	2.400	NM	15.1
MW-86R	07/20/2010 08:29	0.00	0.57	-46.0	6.04	0.10	2.400	NM	18.0
MW-86R	07/20/2010 08:31	0.00	6.49	-46.0	6.05	0.10	2.400	NM	16.7
MW-86R	07/20/2010 09:20	3.41	0.00	7.0	6.07	0.10	2.400	NM	450.0
MW-86R	07/21/2010 07:55	1.53	7.52	-19.0	5.32	0.10	2.140	NM	80.3
MW-86R	10/28/2010 08:10	2.75	6.48	167.0	5.70	0.10	2.510	12.70	29.5
MW-86R	10/28/2010 08:12	1.26	6.48	155.0	5.79	0.10	2.520	12.90	25.3
MW-86R	10/28/2010 08:14	0.18	6.50	142.0	5.85	0.10	2.550	12.60	21.5
MW-86R	10/28/2010 08:16	0.05	6.50	139.0	5.88	0.10	2.570	12.20	14.7
MW-86R	10/28/2010 08:18	0.00	6.58	137.0	5.88	0.10	2.570	12.00	14.6
MW-86R	10/28/2010 08:20	0.00	6.58	135.0	5.89	0.10	2.570	11.70	11.5
MW-86R	10/28/2010 08:22	0.00	6.61	132.0	5.90	0.10	2.580	11.30	14.1
MW-86R	10/28/2010 08:24	0.00	6.61	131.0	5.90	0.10	2.590	10.80	17.6
MW-86R	10/28/2010 08:26	0.00	6.67	126.0	5.92	0.10	2.590	10.20	19.1
MW-86R	10/28/2010 08:28	0.00	6.67	122.0	5.92	0.10	2.580	9.90	22.5
MW-86R	10/28/2010 08:30	0.00	6.71	117.0	5.93	0.10	2.580	9.70	24.4
MW-86R	10/28/2010 08:32	0.00	6.71	107.0	5.95	0.10	2.580	9.50	29.0
MW-86R	10/28/2010 08:34	0.00	6.76	106.0	5.95	0.10	2.580	9.40	27.4
MW-86R	10/28/2010 09:21	2.34	14.24	80.0	6.03	0.10	2.550	13.10	412.0
MW-86R	10/29/2010 08:30	2.42	7.72	79.0	5.89	0.10	2.140	17.10	216.0
MW-86R	03/14/2011 11:24	0.83	5.67	110.0	6.04	0.11	2.079	9.47	8.6
MW-86R	03/14/2011 12:37	4.09	14.15	128.0	6.07	0.11	2.127	11.04	24.9
MW-86R	03/15/2011 10:34	4.41	NM	129.0	6.23	0.10	2.049	10.24	70.4
MW-86R	03/15/2011 11:48	NM	6.77	NM	NM	NM	NM	NM	NM
MW-86R	05/02/2011 09:30	10.43	5.33	162.0	6.46	0.00	0.001	14.10	4.2
MW-86R	05/02/2011 09:32	2.49	NM	169.0	5.97	0.11	1.582	11.81	3.2
MW-86R	05/02/2011 09:34	1.50	NM	170.0	5.93	0.11	1.577	11.75	5.3
MW-86R	05/02/2011 09:36	1.44	NM	170.0	5.92	0.11	1.574	11.71	3.5
MW-86R	05/02/2011 09:38	1.43	NM	170.0	5.92	0.11	1.577	11.68	3.5
MW-86R	05/02/2011 09:40	1.55	NM	171.0	5.91	0.11	1.574	11.66	3.8
MW-86R	05/02/2011 09:42	1.73	NM	171.0	5.91	0.11	1.574	11.62	3.9
MW-86R	05/02/2011 09:44	1.78	5.83	172.0	5.91	0.11	1.575	11.65	2.5
MW-86R	05/02/2011 09:45	1.78	5.83	172.0	5.91	0.11	2.114	11.65	2.5
MW-86R	05/02/2011 11:24	2.71	13.60	126.0	5.98	0.11	2.148	11.76	51.4
MW-86R	05/03/2011 10:32	2.56	6.82	134.0	5.91	0.13	1.810	10.90	104.0
MW-86R	08/09/2011 10:08	1.28	6.00	19.0	6.48	0.11	2.044	23.54	25.6
MW-86R	08/09/2011 10:10	0.80	NM	5.0	6.51	0.11	1.927	21.36	10.9
MW-86R	08/09/2011 10:12	0.51	NM	0.0	6.52	0.11	1.913	21.16	9.6
MW-86R	08/09/2011 10:15	0.39	NM	-3.0	6.51	0.11	1.917	21.14	8.0
MW-86R	08/09/2011 10:17	0.32	NM	-5.0	6.51	0.11	1.926	21.41	8.3
MW-86R	08/09/2011 10:19	0.29	NM	-7.0	6.51	0.11	1.928	21.37	7.8
MW-86R	08/09/2011 10:21	0.31	6.46	-8.0	6.51	0.11	1.933	21.44	8.2
MW-86R	08/09/2011 10:22	0.31	6.46	-8.0	6.51	0.11	2.074	21.44	8.2
MW-86R	08/09/2011 12:13	0.87	14.29	31.0	6.46	0.11	2.048	19.34	35.9
MW-86R	08/10/2011 10:04	6.44	7.56	66.0	6.56	0.09	1.737	17.58	125.7
MW-86R	10/31/2011 08:57	-0.59	6.03	95.0	6.05	0.10	1.922	15.35	8.3
MW-86R	10/31/2011 10:50	12.76	14.13	66.0	6.21	0.10	2.020	15.69	247.0
MW-86R	11/01/2011 09:05	4.26	9.17	83.0	6.28	0.10	1.899	17.03	137.2

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-86R	02/06/2012 10:07	NM	NM	NM	NM	NM	NM	7.93	NM
MW-86R	02/06/2012 11:59	-0.71	15.13	121.0	6.26	0.18	2.505	11.47	60.2
MW-86R	02/07/2012 11:55	3.91	7.43	113.0	6.22	0.15	2.967	12.00	156.0
MW-86R	04/16/2012 09:39	1.07	6.10	143.0	6.30	0.13	2.502	18.32	33.7
MW-86R	04/16/2012 09:41	0.91	NM	143.0	6.34	0.13	2.517	13.10	14.7
MW-86R	04/16/2012 09:43	0.65	NM	143.0	6.32	0.13	2.509	13.91	14.3
MW-86R	04/16/2012 09:45	0.60	NM	143.0	6.31	0.13	2.512	14.18	14.2
MW-86R	04/16/2012 09:47	0.57	NM	143.0	6.31	0.13	2.513	14.13	14.1
MW-86R	04/16/2012 09:49	0.51	NM	143.0	6.30	0.13	2.517	14.11	16.0
MW-86R	04/16/2012 09:51	0.47	NM	143.0	6.30	0.13	2.508	14.29	15.3
MW-86R	04/16/2012 09:53	0.43	NM	142.0	6.30	0.13	2.493	14.61	14.0
MW-86R	04/16/2012 09:55	0.43	NM	142.0	6.29	0.13	2.497	14.74	13.7
MW-86R	04/16/2012 09:57	0.42	6.47	142.0	6.29	0.13	2.499	15.01	13.4
MW-86R	04/16/2012 12:22	5.85	15.12	25.0	6.39	0.13	2.426	17.11	2471.0
MW-86R	04/17/2012 10:17	4.04	7.82	79.0	6.13	0.10	2.250	11.27	67.6
MW-86R	07/23/2012 09:01	1.72	5.27	14.0	6.33	0.13	2.479	22.21	49.7
MW-86R	07/23/2012 09:03	1.60	NM	22.0	6.34	0.13	2.512	19.86	11.0
MW-86R	07/23/2012 09:05	1.37	NM	25.0	6.34	0.13	2.499	19.07	6.8
MW-86R	07/23/2012 09:07	1.09	NM	27.0	6.35	0.13	2.503	18.76	7.1
MW-86R	07/23/2012 09:09	0.91	NM	27.0	6.35	0.13	2.502	18.76	6.5
MW-86R	07/23/2012 09:11	0.79	NM	27.0	6.35	0.13	2.502	18.72	10.0
MW-86R	07/23/2012 09:13	0.69	NM	27.0	6.35	0.13	2.500	18.77	8.4
MW-86R	07/23/2012 09:15	0.60	NM	27.0	6.35	0.13	2.500	18.89	9.5
MW-86R	07/23/2012 09:18	0.53	NM	28.0	6.35	0.13	2.503	18.96	8.7
MW-86R	07/23/2012 09:20	0.47	NM	28.0	6.35	0.13	2.502	18.92	9.4
MW-86R	07/23/2012 09:22	0.41	NM	28.0	6.35	0.13	2.499	19.32	11.8
MW-86R	07/23/2012 09:24	0.37	NM	28.0	6.35	0.13	2.502	19.54	8.5
MW-86R	07/23/2012 09:26	0.35	NM	29.0	6.34	0.13	2.502	19.38	10.6
MW-86R	07/23/2012 09:28	0.33	NM	30.0	6.34	0.13	2.503	19.41	9.1
MW-86R	07/23/2012 09:30	0.31	NM	30.0	6.34	0.13	2.500	19.39	8.4
MW-86R	07/23/2012 09:32	0.29	NM	30.0	6.34	0.13	2.503	19.44	14.3
MW-86R	07/23/2012 09:34	0.28	NM	30.0	6.34	0.13	2.500	19.42	9.7
MW-86R	07/23/2012 09:36	0.27	NM	30.0	6.34	0.13	2.499	19.37	11.6
MW-86R	07/23/2012 09:38	0.25	NM	30.0	6.34	0.13	2.498	19.46	10.0
MW-86R	07/23/2012 09:40	0.24	NM	30.0	6.34	0.13	2.497	19.58	10.3
MW-86R	07/23/2012 09:42	0.23	6.04	30.0	6.35	0.13	2.497	19.63	10.1
MW-86R	07/23/2012 09:43	0.23	6.04	30.0	6.35	0.13	2.497	19.63	10.1
MW-86R	07/23/2012 11:55	1.64	14.66	47.0	6.37	0.13	2.501	19.79	40.6
MW-86R	07/24/2012 09:28	5.58	8.20	26.0	6.45	0.10	2.110	16.82	70.3
MW-86R	10/24/2012 13:11	6.08	NM	-32.0	6.44	0.10	1.840	17.60	71.9
MW-86R	10/24/2012 13:13	5.71	NM	-35.0	6.44	0.10	1.850	17.60	53.5
MW-86R	10/24/2012 13:15	5.25	NM	-37.0	6.45	0.10	1.860	17.60	53.2
MW-86R	10/24/2012 13:17	5.02	NM	-38.0	6.45	0.10	1.860	17.70	46.5
MW-86R	10/24/2012 13:19	4.84	NM	-38.0	6.46	0.10	1.870	17.70	45.9
MW-86R	10/24/2012 13:21	4.73	NM	-38.0	6.46	0.10	1.870	17.70	48.3
MW-86R	10/24/2012 13:23	4.64	6.06	-38.0	6.46	0.10	1.870	17.70	47.5
MW-86R	10/24/2012 15:21	7.52	14.72	-93.0	6.78	0.10	2.010	17.26	326.0
MW-86R	10/25/2012 10:26	4.91	8.81	0.0	6.53	0.10	1.810	17.60	150.0
MW-86R	02/13/2013 09:47	1.78	5.66	-219.0	6.04	0.13	2.587	9.37	49.3
MW-86R	02/13/2013 09:50	1.28	NM	-245.0	6.05	0.12	2.433	8.88	32.0
MW-86R	02/13/2013 09:53	1.34	NM	-254.0	6.05	0.13	2.455	9.18	29.9
MW-86R	02/13/2013 09:56	1.20	NM	-258.0	6.05	0.13	2.476	9.26	28.4
MW-86R	02/13/2013 09:59	1.06	NM	-261.0	6.06	0.13	2.487	9.42	32.2
MW-86R	02/13/2013 10:02	0.96	NM	-263.0	6.06	0.13	2.502	9.39	31.9
MW-86R	02/13/2013 10:04	0.87	NM	-264.0	6.07	0.13	2.509	9.42	30.8
MW-86R	02/13/2013 10:07	0.80	NM	-266.0	6.07	0.13	2.544	9.18	28.5
MW-86R	02/13/2013 10:10	0.76	NM	-268.0	6.07	0.13	2.581	8.89	24.8
MW-86R	02/13/2013 10:13	0.72	NM	-268.0	6.08	0.13	2.595	8.86	26.6
MW-86R	02/13/2013 10:16	0.67	NM	-268.0	6.08	0.13	2.600	8.99	39.5
MW-86R	02/13/2013 10:19	0.64	NM	-266.0	6.08	0.13	2.583	9.23	26.3
MW-86R	02/13/2013 10:22	0.62	NM	-266.0	6.08	0.13	2.583	9.34	22.1
MW-86R	02/13/2013 10:25	0.62	NM	-266.0	6.08	0.13	2.600	9.40	29.2
MW-86R	02/13/2013 10:28	0.59	NM	-266.0	6.08	0.13	2.607	9.38	23.6
MW-86R	02/13/2013 10:31	0.59	NM	-266.0	6.08	0.13	2.605	9.53	21.5
MW-86R	02/13/2013 10:34	0.56	6.56	-268.0	6.08	0.13	2.613	9.49	22.4
MW-86R	02/13/2013 10:35	0.56	6.58	-268.0	6.08	0.13	2.613	9.63	22.4
MW-86R	02/13/2013 12:16	7.04	14.51	-104.0	6.46	0.16	3.020	11.45	54.5
MW-86R	02/14/2013 10:27	6.70	5.22	-144.0	6.04	0.12	2.355	9.00	6.3
MW-86R	05/13/2013 14:34	1.00	5.62	-145.0	5.94	0.11	2.102	14.05	34.5
MW-86R	05/13/2013 16:20	4.89	14.79	-123.0	6.30	0.08	1.556	12.53	9.7
MW-86R	05/14/2013 12:17	2.44	7.45	-137.0	6.25	0.14	2.649	11.20	50.7

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-86R	10/24/2013 13:28	1.14	6.61	-378.0	6.37	0.25	4.666	16.50	10.4
MW-86R	10/24/2013 16:42	6.33	14.68	-259.0	6.93	0.23	4.287	13.67	8.0
MW-86R	10/25/2013 12:07	1.99	8.55	-363.0	6.37	0.32	5.810	16.81	101.5
MW-86R	03/19/2014 11:11	3.69	5.97	9.0	5.93	0.07	1.329	7.79	1.9
MW-86R	03/19/2014 13:34	4.00	14.59	28.0	6.75	0.06	1.197	9.88	71.5
MW-86R	03/20/2014 13:18	12.22	2.67	-45.0	7.33	0.03	0.597	7.04	15.8
MW-86R	05/07/2014 10:23	4.96	5.81	-149.0	5.67	0.06	1.184	14.02	8.9
MW-86R	05/07/2014 12:23	4.20	12.62	-177.0	6.89	0.07	1.384	13.27	12.8
MW-86R	05/08/2014 12:50	3.50	7.10	-156.0	5.92	0.10	2.005	10.66	8.7
MW-86R	07/28/2014 10:00	0.32	5.85	263.0	5.64	0.06	1.167	18.88	12.2
MW-86R	07/28/2014 12:42	3.58	14.51	245.0	6.48	0.04	0.888	18.24	5.4
MW-86R	07/29/2014 10:23	5.41	7.99	268.0	5.99	0.05	1.069	15.75	32.6
MW-86R	10/15/2014 08:58	0.94	6.22	-12.0	6.10	0.08	1.630	18.19	13.2
MW-86R	10/15/2014 10:08	2.16	14.38	-11.0	6.30	0.08	1.573	17.50	179.8
MW-86R	10/16/2014 10:02	157.00	7.51	56.0	6.19	0.08	1.572	17.27	11.5
MW-86R	03/16/2015 12:04	8.78	4.51	-94.0	6.24	0.03	0.626	8.64	0.7
MW-86R	03/16/2015 13:06	6.04	14.36	-117.0	7.10	0.05	0.933	10.13	2144.9
MW-86R	03/17/2015 10:20	5.67	6.30	-61.0	6.37	0.06	1.288	9.37	53.5
MW-86R	05/20/2015 10:59	5.28	8.32	104.0	6.03	0.18	3.434	11.18	33.0
MW-86R	05/20/2015 12:32	1.50	14.59	152.0	6.06	0.08	1.652	13.07	164.8
MW-86R	09/23/2015 10:07	3.42	8.86	90.0	6.27	0.09	1.718	16.34	30.7
MW-86R	09/23/2015 11:25	5.29	14.63	34.0	6.94	0.09	1.821	16.83	85.2
MW-86R	11/05/2015 11:14	2.91	NM	56.0	5.86	0.42	7.566	16.48	11.7
MW-86R	11/05/2015 14:57	7.63	13.96	42.0	6.28	0.33	6.034	16.54	756.6
MW-86R	01/21/2016 11:15	4.95	7.80	193.0	5.43	0.08	1.638	13.08	14.8
MW-86R	01/21/2016 13:58	2.70	14.27	34.0	5.60	0.36	6.521	13.22	12.3
MW-86R	04/19/2016 10:21	5.39	8.22	103.0	5.38	0.10	1.976	11.38	10.4
MW-86R	04/19/2016 12:10	20.60	14.11	37.0	5.91	0.32	5.849	13.42	2682.7
MW-86R	06/29/2016 09:13	8.80	8.05	59.0	5.90	0.09	1.827	13.68	6.7
MW-86R	06/29/2016 10:51	2.66	12.81	-46.0	6.06	0.43	7.682	14.28	89.8
MW-86R	10/04/2016 09:27	2.79	8.88	54.0	6.05	0.08	1.580	17.76	31.3
MW-86R	10/04/2016 11:31	2.94	14.86	-36.0	7.26	0.26	4.779	18.27	20.0
MW-86R	01/04/2017 12:07	NM	2.03	40.0	5.29	0.03	0.574	9.32	3.2
MW-86R	01/04/2017 12:49	4.93	7.04	23.0	7.17	0.05	1.006	9.87	16.3
MW-86R	04/11/2017 08:51	NM	3.51	NM	NM	0.11	2.164	NM	NM
MW-86R	04/11/2017 09:31	NM	6.28	NM	NM	0.07	1.371	NM	NM
MW-86R	04/11/2017 10:18	NM	14.11	NM	NM	0.11	2.128	NM	NM
MW-86R	07/06/2017 10:03	2.97	8.04	134.0	5.80	0.08	1.547	14.95	13.7
MW-86R	07/06/2017 11:16	0.19	6.02	108.0	6.10	0.25	4.673	19.29	8.2
MW-86R	07/06/2017 12:02	1.50	14.18	88.0	7.92	0.27	4.927	14.24	136.1
MW-86R	10/03/2017 10:24	0.57	6.65	180.0	6.02	1.60	26.236	18.02	15.5
MW-86R	10/03/2017 11:14	0.73	8.50	111.0	5.98	1.10	18.370	17.43	10.3
MW-86R	10/03/2017 11:34	5.06	13.36	122.0	7.41	1.63	26.450	17.06	50.2
MW-86R	01/10/2018 13:09	3.99	6.04	182.0	7.88	0.11	2.200	8.28	18.7
MW-86R	01/10/2018 13:11	1.82	NM	168.0	7.68	0.13	2.570	11.37	9.2
MW-86R	01/10/2018 13:13	1.67	NM	163.0	7.45	0.14	2.700	10.87	7.3
MW-86R	01/10/2018 13:16	1.23	NM	158.0	7.30	0.14	2.749	10.87	6.3
MW-86R	01/10/2018 13:18	1.09	NM	152.0	7.21	0.15	2.797	10.76	5.5
MW-86R	01/10/2018 13:20	0.96	NM	147.0	7.10	0.15	2.811	10.85	8.2
MW-86R	01/10/2018 13:23	0.92	NM	143.0	7.02	0.15	2.849	10.80	7.1
MW-86R	01/10/2018 13:25	0.88	NM	141.0	6.94	0.15	2.844	10.92	8.2
MW-86R	01/10/2018 13:27	0.84	NM	136.0	6.86	0.15	2.853	10.88	5.7
MW-86R	01/10/2018 13:30	0.81	NM	135.0	6.79	0.15	2.859	10.88	6.1
MW-86R	01/10/2018 13:32	0.78	NM	133.0	6.72	0.15	2.862	10.87	6.2
MW-86R	01/10/2018 13:34	0.73	NM	132.0	6.66	0.15	2.853	11.00	6.3
MW-86R	01/10/2018 13:37	0.70	NM	132.0	6.60	0.15	2.884	10.86	5.1
MW-86R	01/10/2018 13:39	0.68	NM	131.0	6.56	0.15	2.882	10.90	5.5
MW-86R	01/10/2018 13:41	0.66	NM	130.0	6.51	0.15	2.889	10.86	6.5
MW-86R	01/10/2018 13:44	0.65	NM	129.0	6.47	0.15	2.879	10.98	5.1
MW-86R	01/10/2018 13:46	0.62	NM	129.0	6.43	0.15	2.877	10.97	5.6
MW-86R	01/10/2018 13:49	0.60	NM	130.0	6.39	0.15	2.888	10.86	7.1
MW-86R	01/10/2018 13:51	0.59	NM	130.0	6.36	0.15	2.887	10.94	5.1
MW-86R	01/10/2018 13:53	0.58	NM	130.0	6.33	0.15	2.914	10.88	4.9
MW-86R	01/10/2018 13:56	0.56	NM	131.0	6.30	0.15	2.909	10.92	6.1
MW-86R	01/10/2018 13:58	0.54	6.86	131.0	6.27	0.15	2.916	10.85	7.8
MW-86R	01/11/2018 10:52	5.01	8.47	160.0	5.95	0.09	1.718	13.56	9.4
MW-86R	01/11/2018 13:58	0.54	6.86	131.0	6.27	0.15	2.927	10.71	7.8
MW-86R	01/11/2018 15:02	9.96	12.42	209.0	6.50	0.18	3.401	13.10	35.8
MW-86R	04/02/2018 12:35	7.40	4.18	285.0	7.18	0.08	1.619	8.06	13.3
MW-86R	04/02/2018 12:38	3.96	NM	283.0	6.86	0.09	1.711	8.51	7.2
MW-86R	04/02/2018 12:40	3.25	NM	278.0	6.67	0.09	1.691	8.74	3.4

Table 6a
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Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-86R	**04/02/2018 12:42**	2.96	NM	278.0	6.52	0.08	1.661	8.84	4.8
MW-86R	**04/02/2018 12:44**	2.84	NM	276.0	6.41	0.08	1.658	8.89	4.4
MW-86R	**04/02/2018 12:47**	2.74	NM	277.0	6.35	0.08	1.661	9.09	3.6
MW-86R	**04/02/2018 12:49**	2.71	NM	278.0	6.27	0.08	1.664	9.23	4.4
MW-86R	**04/02/2018 12:51**	2.68	NM	278.0	6.20	0.08	1.675	9.31	4.0
MW-86R	**04/02/2018 12:53**	2.63	NM	278.0	6.13	0.08	1.669	9.28	3.8
MW-86R	**04/02/2018 12:55**	2.62	NM	278.0	6.09	0.08	1.663	9.21	3.8
MW-86R	**04/02/2018 12:58**	2.56	4.32	278.0	6.04	0.08	1.660	9.24	3.5
MW-86R	**04/03/2018 11:09**	8.72	5.66	210.0	7.25	0.05	1.029	7.48	2.4
MW-86R	**04/03/2018 12:58**	2.56	4.32	278.0	6.04	0.08	1.676	8.88	3.6
MW-86R	**04/03/2018 13:52**	3.66	14.88	207.0	7.03	0.08	1.564	11.07	91.8
MW-86R	**07/05/2018 09:30**	5.10	5.42	22.0	6.94	NM	0.090	24.41	8.0
MW-86R	**07/05/2018 09:33**	1.13	NM	-7.0	6.36	NM	0.098	19.23	5.3
MW-86R	**07/05/2018 09:35**	0.85	NM	1.0	6.20	NM	0.098	19.53	5.9
MW-86R	**07/05/2018 09:37**	0.81	NM	5.0	6.11	NM	0.098	19.52	6.0
MW-86R	**07/05/2018 09:39**	0.74	NM	8.0	6.02	NM	0.098	19.32	5.1
MW-86R	**07/05/2018 09:41**	0.67	NM	9.0	5.97	NM	0.098	19.52	6.2
MW-86R	**07/05/2018 09:43**	0.68	NM	10.0	5.93	NM	0.098	19.22	6.4
MW-86R	**07/05/2018 09:46**	0.73	NM	10.0	5.91	NM	0.098	19.17	5.6
MW-86R	**07/05/2018 09:48**	0.65	NM	11.0	5.89	NM	0.098	19.50	6.7
MW-86R	**07/05/2018 09:50**	0.59	NM	12.0	5.88	NM	0.098	20.06	7.3
MW-86R	**07/05/2018 09:52**	0.60	NM	12.0	5.87	NM	0.098	20.13	7.7
MW-86R	**07/05/2018 09:54**	0.62	5.77	11.0	5.87	NM	0.098	19.88	7.9
MW-86R	**07/06/2018 09:54**	0.62	5.77	11.0	5.87	0.10	1.893	20.06	7.9
MW-86R	**07/06/2018 10:43**	3.62	8.58	-6.0	3.92	0.09	1.745	14.65	6.1
MW-86R	**07/06/2018 11:18**	2.50	14.32	-7.0	6.63	0.09	1.768	16.16	20.7
MW-86R	**04/15/2019 13:28**	3.03	NM	149.8	6.40	NM	3.214	14.68	4.1
MW-86R	**04/15/2019 14:55**	4.02	7.68	177.6	4.91	0.69	1.296	10.19	9.7
MW-86R	**07/15/2019 10:05**	18.00	5.82	88.6	5.83	NM	1.156	15.55	5.4
MW-86R	**07/15/2019 10:10**	32.66	5.84	88.5	5.74	NM	1.152	16.83	3.9
MW-86R	**07/15/2019 10:15**	28.82	5.84	88.9	5.76	NM	1.156	16.77	1.8
MW-86R	**07/15/2019 10:20**	18.79	5.86	90.7	5.76	NM	1.158	16.74	3.7
MW-86R	**07/15/2019 10:25**	8.10	5.89	92.1	5.79	NM	1.154	16.64	3.8
MW-86R	**07/15/2019 10:30**	4.83	5.96	94.1	5.82	NM	1.152	16.49	3.7
MW-86R	**07/15/2019 10:35**	3.63	5.97	94.9	5.84	NM	1.148	16.70	3.1
MW-86R	**07/15/2019 10:40**	3.07	5.97	95.8	5.86	NM	1.143	16.84	2.5
MW-86R	**07/15/2019 10:45**	2.65	5.99	97.8	5.87	NM	1.124	16.64	2.5
MW-86R	**07/15/2019 10:50**	2.46	6.01	100.4	5.87	NM	1.106	16.93	2.3
MW-86R	**07/15/2019 12:01**	3.27	10.77	84.3	5.91	0.62	1.243	16.16	2.5
MW-86R	**07/15/2019 12:15**	3.18	10.51	94.1	5.86	0.60	1.196	15.92	2.6
MW-86R	**10/18/2019 09:05**	2.01	6.07	96.7	6.27	NM	0.542	15.00	5.7
MW-86R	**10/18/2019 09:10**	0.96	6.18	84.8	6.12	NM	0.534	15.97	6.3
MW-86R	**10/18/2019 09:15**	0.74	6.31	78.0	6.09	NM	0.534	16.39	2.6
MW-86R	**10/18/2019 09:20**	0.61	6.47	68.5	6.10	NM	0.540	16.64	1.2
MW-86R	**10/18/2019 09:25**	0.71	6.50	66.6	6.09	NM	0.533	16.90	1.5
MW-86R	**10/18/2019 09:30**	0.78	6.70	58.5	6.11	NM	0.551	16.67	3.1
MW-86R	**10/18/2019 09:35**	0.58	6.85	50.3	6.12	NM	0.557	16.46	1.1
MW-86R	**10/18/2019 09:40**	0.57	7.03	47.3	6.12	NM	0.557	16.60	0.9
MW-86R	**10/18/2019 09:45**	0.42	7.15	45.1	6.12	NM	0.558	16.69	1.6
MW-86R	**10/18/2019 09:50**	0.53	7.26	43.9	6.12	NM	0.558	16.48	1.2
MW-86R	**10/18/2019 11:40**	2.65	13.88	-34.4	6.24	0.23	0.470	17.58	2.2
MW-86R	**10/18/2019 12:00**	2.65	13.88	-34.4	6.24	0.23	0.470	17.58	2.2
MW-86R	**10/18/2019 12:10**	2.79	14.08	-19.8	6.03	0.22	0.457	18.04	267.8
MW-86R	**01/16/2020 13:05**	2.93	NM	197.5	5.83	NM	0.919	11.23	2.8
MW-86R	**01/17/2020 09:30**	5.90	7.48	218.1	6.14	0.32	0.658	9.73	4.2
MW-86R	**04/16/2020 10:45**	3.83	NM	151.6	5.91	NM	0.650	11.67	11.3
MW-86R	**04/17/2020 10:35**	6.81	7.63	20.2	6.22	0.37	0.754	12.37	3.9
MW-86R	**02/06/2012 09:46**	-0.88	5.61	126.0	6.25	0.13	2.565	8.22	30.4
MW-86R	**02/06/2012 09:48**	-0.90	NM	116.0	6.27	0.13	2.561	7.43	19.4
MW-86R	**02/06/2012 09:50**	-0.85	NM	109.0	6.26	0.13	2.561	8.93	17.4
MW-86R	**02/06/2012 09:52**	-0.84	NM	104.0	6.25	0.13	2.563	9.37	17.2
MW-86R	**02/06/2012 09:54**	-0.85	NM	100.0	6.26	0.13	2.558	8.69	19.8
MW-86R	**02/06/2012 09:56**	-0.84	NM	98.0	6.28	0.13	2.547	8.18	18.5
MW-86R	**02/06/2012 09:58**	-0.85	NM	96.0	6.27	0.13	2.540	8.55	25.5
MW-86R	**02/06/2012 10:00**	-0.85	NM	93.0	6.26	0.13	2.562	8.68	17.9
MW-86R	**02/06/2012 10:02**	-0.86	NM	92.0	6.26	0.13	2.563	8.31	15.9
MW-86R	**02/06/2012 10:05**	-0.87	NM	91.0	6.26	0.13	2.549	8.13	15.7
MW-86R	**02/06/2012 10:07**	-0.88	5.97	89.0	6.27	0.13	2.548	7.93	16.0
MW-0091R	**12/18/2015 12:15**	0.81	13.22	-56.0	6.08	0.50	8.933	16.79	177.8
MW-0091R	**12/18/2015 16:00**	1.07	NM	-88.0	6.24	0.65	11.350	16.62	1427.1
MW-0091R	**01/28/2016 11:07**	0.31	13.27	-9.0	5.86	0.15	2.802	15.65	60.2

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-0091R	01/28/2016 14:23	3.86	15.42	-85.0	5.90	0.76	13.050	16.21	253.1
MW-0091R	04/20/2016 10:52	2.19	13.63	-51.0	5.85	0.14	2.806	11.31	94.3
MW-0091R	04/20/2016 15:35	1.71	14.76	73.0	6.25	0.35	6.309	14.78	1312.7
MW-0091R	06/30/2016 10:52	0.51	13.28	-116.0	6.08	0.14	2.682	15.69	26.3
MW-0091R	06/30/2016 11:43	5.01	16.59	-136.0	6.27	0.52	9.242	16.50	238.4
MW-0091R	10/07/2016 10:55	0.77	13.62	-79.0	5.99	0.12	2.395	19.18	32.2
MW-0091R	10/07/2016 14:52	0.47	14.11	-101.0	7.31	0.24	4.421	16.99	295.4
MW-0091R	01/10/2017 10:33	0.11	13.41	-33.0	6.61	0.53	9.441	16.51	370.6
MW-0091R	01/10/2017 11:31	1.20	14.28	-11.0	6.24	2.68	41.600	16.77	203.6
MW-0091R	04/11/2017 11:13	NM	13.18	NM	NM	0.15	2.871	NM	NM
MW-0091R	04/11/2017 13:36	NM	13.42	NM	NM	0.19	3.662	NM	NM
MW-0091R	04/11/2017 14:07	NM	13.83	NM	NM	0.14	4.045	NM	NM
MW-0091R	07/07/2017 09:42	0.24	13.81	46.0	6.05	0.79	13.750	17.95	2.5
MW-0091R	07/07/2017 09:45	0.02	13.99	142.0	6.35	1.63	26.520	15.21	17.5
MW-0091R	07/07/2017 10:14	1.28	14.03	48.0	6.66	0.86	14.670	15.09	203.9
MW-0091R	10/06/2017 11:12	0.79	13.77	71.0	6.15	2.17	34.310	17.59	18.8
MW-0091R	10/06/2017 12:53	0.34	14.08	86.0	6.12	1.49	24.500	20.67	12.7
MW-0091R	10/06/2017 13:19	3.94	15.89	4.0	7.35	1.46	23.900	18.89	56.4
MW-0091R	01/11/2018 14:07	3.60	13.39	39.0	6.90	0.18	3.345	14.20	11.4
MW-0091R	01/11/2018 14:10	3.58	NM	30.0	6.70	0.00	0.028	14.46	2.0
MW-0091R	01/11/2018 14:13	9.00	NM	36.0	6.67	0.13	2.427	14.01	15.1
MW-0091R	01/11/2018 14:16	1.42	NM	29.0	6.58	0.19	3.569	14.69	11.7
MW-0091R	01/11/2018 14:19	1.03	NM	28.0	6.50	0.19	3.567	14.68	9.1
MW-0091R	01/11/2018 14:22	0.88	NM	29.0	6.45	0.19	3.588	14.62	8.2
MW-0091R	01/11/2018 14:25	0.66	NM	30.0	6.41	0.19	3.552	15.07	8.8
MW-0091R	01/11/2018 14:28	0.53	NM	31.0	6.38	0.19	3.519	15.17	7.5
MW-0091R	01/11/2018 14:32	0.51	NM	32.0	6.35	0.19	3.517	15.17	7.9
MW-0091R	01/11/2018 14:35	0.48	13.39	33.0	6.34	0.19	3.520	15.09	8.2
MW-0091R	01/12/2018 12:03	0.91	13.13	39.0	6.31	1.06	17.803	15.94	21.6
MW-0091R	01/12/2018 14:35	0.48	13.39	33.0	6.34	0.19	3.532	14.95	8.2
MW-0091R	01/12/2018 15:05	1.71	15.41	57.0	6.46	0.19	3.625	16.39	57.5
MW-0091R	04/05/2018 12:22	7.53	13.09	89.0	6.67	0.15	2.897	11.11	2.4
MW-0091R	04/05/2018 12:25	2.10	NM	58.0	6.46	0.16	2.990	12.04	2.6
MW-0091R	04/05/2018 12:28	1.71	NM	42.0	6.31	0.16	2.984	12.27	1.6
MW-0091R	04/05/2018 12:31	1.66	NM	35.0	6.22	0.15	2.960	12.33	2.0
MW-0091R	04/05/2018 12:34	1.59	NM	31.0	6.16	0.15	2.924	12.40	1.7
MW-0091R	04/05/2018 12:37	1.59	NM	28.0	6.12	0.15	2.906	12.47	1.8
MW-0091R	04/05/2018 12:39	1.52	NM	26.0	6.09	0.15	2.872	12.84	2.0
MW-0091R	04/05/2018 12:42	1.56	NM	25.0	6.08	0.15	2.891	12.60	2.0
MW-0091R	04/05/2018 12:45	1.54	12.97	24.0	6.06	0.15	2.836	12.43	2.1
MW-0091R	04/06/2018 11:37	1.63	13.08	10.0	6.06	0.15	2.953	13.31	16.6
MW-0091R	04/06/2018 12:45	1.54	12.97	24.0	6.06	0.15	2.844	12.31	2.1
MW-0091R	04/06/2018 13:10	3.04	14.17	45.0	6.80	0.16	3.078	14.65	36.3
MW-0091R	07/05/2018 13:52	2.47	13.18	-91.0	6.66	0.14	2.734	28.24	5.8
MW-0091R	07/05/2018 13:55	1.21	NM	-100.0	6.30	0.15	2.814	21.47	5.7
MW-0091R	07/05/2018 13:58	0.91	NM	-101.0	6.21	0.15	2.818	20.89	4.6
MW-0091R	07/05/2018 14:01	0.84	NM	-103.0	6.19	0.15	2.811	20.49	5.5
MW-0091R	07/05/2018 14:04	0.82	NM	-104.0	6.17	0.15	2.806	20.77	5.4
MW-0091R	07/05/2018 14:05	0.83	NM	-104.0	6.17	0.15	2.811	20.79	5.2
MW-0091R	07/05/2018 14:08	0.83	NM	-104.0	6.16	0.15	2.813	20.95	5.3
MW-0091R	07/05/2018 14:11	0.83	NM	-104.0	6.16	0.15	2.810	20.86	4.4
MW-0091R	07/05/2018 14:14	0.81	NM	-104.0	6.15	0.15	2.821	20.75	5.4
MW-0091R	07/05/2018 14:16	0.80	NM	-104.0	6.15	0.15	2.842	20.86	5.3
MW-0091R	07/05/2018 14:19	0.79	13.09	-102.0	6.13	0.15	2.872	20.32	5.3
MW-0091R	07/06/2018 11:55	0.91	13.09	-95.0	6.12	0.16	3.016	16.00	17.2
MW-0091R	07/06/2018 14:19	0.79	13.09	-102.0	6.13	0.15	2.862	20.50	5.3
MW-0091R	07/06/2018 14:43	0.93	15.10	-85.0	6.53	0.15	2.954	15.28	109.7
MW-0091R	11/12/2018 14:35	0.70	13.31	-72.8	6.27	1.17	2.262	16.78	2.8
MW-0091R	11/12/2018 14:45	0.72	13.30	-69.5	6.23	1.21	2.333	16.67	3.2
MW-0091R	11/12/2018 14:55	0.72	13.29	-69.4	6.23	1.21	2.333	16.65	3.1
MW-0091R	01/16/2019 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-0091R	01/16/2019 14:00	1.38	13.14	-54.4	6.38	0.96	1.870	14.53	0.0
MW-0091R	01/16/2019 14:20	0.81	13.13	-45.0	6.32	1.06	2.073	14.85	0.0
MW-0091R	01/16/2019 14:30	0.77	13.19	-45.6	6.32	1.06	2.073	14.85	0.0
MW-91R	04/16/2019 09:15	1.14	NM	-23.3	6.32	NM	2.762	12.95	5.2
MW-91R	04/16/2019 09:45	1.07	13.87	-23.5	6.26	1.44	2.767	14.14	5.3
MW-91R	07/16/2019 10:05	3.99	12.94	-73.6	6.22	NM	2.648	19.41	1.4
MW-91R	07/16/2019 10:10	3.51	13.12	-91.0	6.26	NM	2.645	19.16	1.2
MW-91R	07/16/2019 10:15	2.29	13.19	-85.6	6.25	NM	2.709	18.97	0.3
MW-91R	07/16/2019 10:20	1.89	13.26	-78.5	6.24	NM	2.750	18.43	0.3
MW-91R	07/16/2019 10:25	1.67	13.30	-74.7	6.23	NM	2.759	18.19	0.5

Table 6a
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Groundwater Monitoring Report
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Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-91R	**07/16/2019 10:30**	1.51	13.34	-71.0	6.23	NM	2.812	18.00	0.5
MW-91R	**07/16/2019 10:35**	1.42	13.38	-69.4	6.23	NM	2.828	17.90	0.5
MW-91R	**07/16/2019 10:40**	1.35	13.43	-69.9	6.25	NM	2.827	17.85	0.1
MW-91R	**07/16/2019 10:45**	1.29	13.47	-67.3	6.25	NM	2.834	17.57	0.2
MW-91R	**07/16/2019 10:50**	1.29	13.52	-67.3	6.25	NM	2.834	17.57	0.0
MW-91R	**07/16/2019 11:05**	1.09	13.50	-59.2	6.20	1.47	2.818	15.82	0.5
MW-91R	**07/16/2019 11:20**	1.09	13.28	-59.9	6.21	1.47	2.822	15.75	0.6
MW-91R	**10/18/2019 12:45**	2.97	13.29	-64.5	6.21	NM	0.728	19.48	4.9
MW-91R	**10/18/2019 12:50**	1.18	13.31	-74.2	6.23	NM	0.929	18.42	4.0
MW-91R	**10/18/2019 12:55**	0.90	13.62	-71.2	6.20	NM	0.957	17.75	1.1
MW-91R	**10/18/2019 13:00**	0.82	13.68	-67.5	6.19	NM	0.981	17.81	0.8
MW-91R	**10/18/2019 13:05**	0.81	13.70	-65.9	6.19	NM	0.986	17.68	0.5
MW-91R	**10/18/2019 13:10**	0.78	13.70	-63.0	6.17	NM	0.991	17.66	0.5
MW-91R	**10/18/2019 13:15**	0.78	13.74	-60.3	6.17	NM	0.995	17.69	0.3
MW-91R	**10/18/2019 13:45**	1.82	14.05	-32.9	6.18	0.49	0.989	16.99	2.2
MW-91R	**10/18/2019 14:05**	0.98	13.93	-34.9	6.14	0.49	0.987	17.03	0.5
MW-91R	**01/17/2020 12:30**	1.62	NM	-96.6	6.26	NM	1.357	14.98	0.9
MW-91R	**01/17/2020 13:00**	1.63	13.68	-87.6	6.26	0.68	1.342	14.93	8.0
MW-91R	**04/17/2020 11:45**	0.46	NM	-65.5	5.88	NM	2.052	13.93	5.1
MW-91R	**04/17/2020 12:10**	0.40	13.77	-58.5	5.90	1.08	2.098	14.17	5.9
MW-0092R	**12/18/2015 11:20**	2.32	12.56	-83.0	6.72	0.46	8.256	16.80	3260.7
MW-0092R	**12/18/2015 14:21**	1.80	14.88	-105.0	6.73	0.57	10.000	17.38	3142.3
MW-0092R	**01/28/2016 10:03**	0.50	12.50	-63.0	6.39	0.11	2.047	15.69	96.7
MW-0092R	**01/28/2016 12:11**	2.22	14.25	-120.0	6.41	0.60	10.500	15.83	3032.6
MW-0092R	**04/20/2016 11:25**	2.32	13.23	-59.0	6.35	0.11	2.214	13.45	145.2
MW-0092R	**04/20/2016 13:56**	0.65	14.28	-77.0	6.68	0.28	5.190	15.26	3125.9
MW-0092R	**06/30/2016 11:19**	0.65	12.81	-129.0	6.57	0.11	2.142	14.64	462.3
MW-0092R	**06/30/2016 15:29**	2.74	14.72	-153.0	6.65	0.57	10.120	16.00	3389.1
MW-0092R	**10/07/2016 11:22**	0.81	13.20	21.0	4.91	0.09	1.833	19.09	173.1
MW-0092R	**10/07/2016 13:15**	0.27	13.48	-111.0	7.40	0.22	4.104	19.17	3841.5
MW-0092R	**01/10/2017 09:40**	0.12	12.70	-33.0	6.61	0.53	9.442	16.51	389.6
MW-0092R	**01/10/2017 10:22**	1.10	13.81	-27.0	6.67	2.71	41.980	16.71	2860.3
MW-0092R	**04/07/2017 09:07**	0.20	12.27	-135.0	6.68	0.20	3.809	12.83	234.3
MW-0092R	**04/07/2017 10:04**	1.78	14.09	-62.0	6.83	0.16	3.142	13.09	3012.3
MW-0092R	**07/07/2017 10:55**	0.06	12.38	29.0	6.86	1.99	31.800	15.04	305.7
MW-0092R	**07/07/2017 11:31**	0.10	14.79	-43.0	6.46	0.98	16.610	20.06	167.6
MW-0092R	**07/07/2017 11:55**	0.54	15.49	-71.0	6.92	1.38	22.800	15.10	3213.4
MW-0092R	**10/06/2017 12:04**	0.75	13.19	41.0	6.63	1.53	24.990	17.25	121.1
MW-0092R	**10/06/2017 14:20**	0.33	13.30	47.0	6.60	1.65	26.890	20.99	16.0
MW-0092R	**10/06/2017 14:53**	3.02	13.98	-17.0	7.54	1.61	26.130	18.09	47.1
MW-0092R	**01/11/2018 10:34**	6.33	13.01	183.0	7.60	0.11	2.227	12.47	9.7
MW-0092R	**01/11/2018 10:37**	1.86	NM	-10.0	7.25	0.13	2.426	12.93	8.5
MW-0092R	**01/11/2018 10:39**	1.10	NM	-35.0	7.03	0.13	2.524	13.31	10.2
MW-0092R	**01/11/2018 10:42**	0.87	NM	-34.0	6.92	0.13	2.597	13.44	10.8
MW-0092R	**01/11/2018 10:45**	0.72	NM	-31.0	6.85	0.14	2.653	13.70	10.5
MW-0092R	**01/11/2018 10:48**	0.58	NM	-29.0	6.81	0.14	2.687	13.94	10.3
MW-0092R	**01/11/2018 10:50**	0.45	NM	-26.0	6.78	0.14	2.725	14.06	9.8
MW-0092R	**01/11/2018 10:53**	0.36	NM	-24.0	6.76	0.14	2.751	14.33	8.7
MW-0092R	**01/11/2018 10:56**	0.31	NM	-22.0	6.75	0.14	2.768	14.35	7.6
MW-0092R	**01/11/2018 10:58**	0.29	NM	-21.0	6.74	0.15	2.805	14.40	6.6
MW-0092R	**01/11/2018 11:01**	0.29	NM	-21.0	6.73	0.15	2.823	14.36	5.7
MW-0092R	**01/11/2018 11:04**	0.26	NM	-20.0	6.73	0.15	2.827	14.43	4.6
MW-0092R	**01/11/2018 11:07**	0.24	NM	-20.0	6.73	0.15	2.837	14.48	4.7
MW-0092R	**01/11/2018 11:09**	0.23	NM	-20.0	6.73	0.15	2.861	14.42	5.6
MW-0092R	**01/11/2018 11:12**	0.23	NM	-19.0	6.73	0.15	2.882	14.45	5.9
MW-0092R	**01/11/2018 11:15**	0.22	NM	-19.0	6.73	0.15	2.879	14.53	5.2
MW-0092R	**01/11/2018 11:18**	0.21	NM	-19.0	6.73	0.15	2.894	14.43	4.8
MW-0092R	**01/11/2018 11:20**	0.20	NM	-19.0	6.73	0.15	2.892	14.59	4.1
MW-0092R	**01/11/2018 11:23**	0.19	12.99	-20.0	6.73	0.15	2.912	14.48	5.1
MW-0092R	**01/12/2018 11:23**	0.19	12.99	-20.0	6.73	0.15	2.921	14.34	5.1
MW-0092R	**01/12/2018 11:31**	2.85	12.81	12.0	6.75	0.25	4.562	16.33	266.0
MW-0092R	**01/12/2018 11:45**	2.10	15.97	-12.0	7.38	0.14	2.690	15.57	1463.8
MW-0092R	**04/05/2018 13:27**	7.78	11.96	24.0	7.41	0.12	2.327	11.55	105.2
MW-0092R	**04/05/2018 13:30**	2.34	NM	21.0	7.03	0.12	2.273	11.76	103.5
MW-0092R	**04/05/2018 13:32**	1.92	NM	13.0	6.86	0.12	2.403	11.94	90.5
MW-0092R	**04/05/2018 13:35**	1.75	NM	8.0	6.75	0.12	2.415	12.10	81.0
MW-0092R	**04/05/2018 13:38**	1.70	NM	4.0	6.69	0.12	2.396	12.33	68.7
MW-0092R	**04/05/2018 13:41**	1.65	NM	1.0	6.65	0.13	2.451	12.45	67.6
MW-0092R	**04/05/2018 13:43**	1.64	NM	-1.0	6.62	0.12	2.298	11.82	65.4
MW-0092R	**04/05/2018 13:46**	1.57	NM	-2.0	6.59	0.12	2.419	12.07	63.0
MW-0092R	**04/05/2018 13:49**	1.59	NM	-4.0	6.58	0.12	2.394	12.61	64.8

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-0092R	04/05/2018 13:52	1.64	NM	-4.0	6.57	0.12	2.344	11.86	58.2
MW-0092R	04/05/2018 13:54	1.54	NM	-5.0	6.56	0.12	2.305	12.04	48.8
MW-0092R	04/05/2018 13:57	1.60	NM	-6.0	6.55	0.12	2.408	12.62	46.9
MW-0092R	04/05/2018 14:00	1.59	NM	-7.0	6.55	0.12	2.415	12.22	52.0
MW-0092R	04/05/2018 14:03	1.60	NM	-7.0	6.55	0.12	2.338	12.21	43.7
MW-0092R	04/05/2018 14:05	1.56	NM	-8.0	6.55	0.12	2.365	12.29	36.8
MW-0092R	04/05/2018 14:08	1.57	NM	-9.0	6.54	0.12	2.366	12.46	39.4
MW-0092R	04/05/2018 14:11	1.60	NM	-9.0	6.54	0.12	2.411	12.36	33.2
MW-0092R	04/05/2018 14:14	1.59	NM	-9.0	6.54	0.12	2.322	12.02	36.7
MW-0092R	04/05/2018 14:16	1.58	11.99	-9.0	6.54	0.12	2.309	11.64	41.3
MW-0092R	04/06/2018 10:52	1.45	13.75	-32.0	6.48	0.11	2.149	13.43	454.5
MW-0092R	04/06/2018 14:16	1.58	11.99	-9.0	6.54	0.12	2.317	11.52	41.3
MW-0092R	04/06/2018 14:39	3.48	13.86	5.0	7.08	0.12	2.348	13.30	2339.8
MW-0092R	07/05/2018 12:10	3.22	14.59	-153.0	6.63	0.11	2.201	32.83	196.0
MW-0092R	07/05/2018 12:12	1.13	NM	-146.0	6.52	0.12	2.260	21.47	159.4
MW-0092R	07/05/2018 12:15	0.90	NM	-141.0	6.50	0.12	2.254	21.07	134.3
MW-0092R	07/05/2018 12:18	0.95	NM	-139.0	6.50	0.12	2.246	21.07	147.5
MW-0092R	07/05/2018 12:21	0.95	NM	-137.0	6.50	0.12	2.238	20.38	120.0
MW-0092R	07/05/2018 12:24	0.89	NM	-137.0	6.51	0.12	2.263	20.06	108.6
MW-0092R	07/05/2018 12:27	0.93	NM	-138.0	6.52	0.12	2.280	19.45	79.2
MW-0092R	07/05/2018 12:30	1.04	NM	-138.0	6.53	0.12	2.270	20.05	75.0
MW-0092R	07/05/2018 12:33	1.07	NM	-139.0	6.53	0.12	2.286	20.63	86.7
MW-0092R	07/05/2018 12:36	0.81	NM	-141.0	6.53	0.12	2.284	20.42	86.7
MW-0092R	07/05/2018 12:38	0.77	NM	-142.0	6.54	0.12	2.291	20.51	68.5
MW-0092R	07/05/2018 12:41	0.80	NM	-142.0	6.54	0.12	2.297	20.14	72.4
MW-0092R	07/05/2018 12:44	0.81	NM	-142.0	6.55	0.12	2.301	19.80	64.4
MW-0092R	07/05/2018 12:47	0.75	NM	-142.0	6.55	0.12	2.318	20.64	54.7
MW-0092R	07/05/2018 12:50	0.70	NM	-143.0	6.56	0.12	2.315	20.91	47.2
MW-0092R	07/05/2018 12:53	0.68	NM	-143.0	6.56	0.12	2.340	20.99	50.1
MW-0092R	07/05/2018 12:56	0.67	14.62	-143.0	6.57	0.12	2.354	20.80	50.9
MW-0092R	07/06/2018 11:20	2.36	13.69	-116.0	6.56	0.12	2.238	15.23	101.8
MW-0092R	07/06/2018 12:56	0.67	14.62	-143.0	6.57	0.12	2.345	20.98	21.0
MW-0092R	07/06/2018 13:28	1.29	14.69	-138.0	6.76	0.11	2.114	16.21	2248.7
MW-0092R	11/14/2018 09:55	1.06	13.14	-114.8	6.73	0.95	1.853	17.27	32.4
MW-0092R	11/14/2018 10:05	1.07	13.92	-115.2	6.74	0.87	1.710	17.10	12.7
MW-0092R	11/14/2018 10:15	1.08	14.10	-144.1	6.74	0.85	1.679	17.43	15.9
MW-0092R	01/17/2019 09:35	0.84	12.54	-98.7	6.75	0.09	1.364	14.72	19.9
MW-0092R	01/17/2019 09:55	0.67	13.25	-104.9	6.77	0.61	1.226	14.65	10.3
MW-0092R	01/17/2019 10:05	0.73	13.02	-102.8	6.78	0.59	1.181	14.45	1.5
MW-92R	04/16/2019 11:15	1.17	NM	-69.0	6.76	NM	1.836	12.97	12.4
MW-92R	04/16/2019 11:41	1.78	13.13	-79.3	6.76	0.99	1.933	13.31	3.2
MW-92R	07/16/2019 10:05	3.99	11.70	-134.2	6.80	NM	2.025	19.56	7.9
MW-92R	07/16/2019 10:10	1.97	11.85	-130.6	6.84	NM	2.117	18.61	15.9
MW-92R	07/16/2019 10:15	1.53	11.89	-126.8	6.75	NM	2.099	18.45	8.1
MW-92R	07/16/2019 10:20	1.40	11.92	-125.2	6.71	NM	2.081	18.27	5.1
MW-92R	07/16/2019 10:25	1.27	11.97	-122.4	6.67	NM	2.078	18.18	4.6
MW-92R	07/16/2019 10:30	1.21	12.03	-120.3	6.65	NM	2.063	18.36	5.4
MW-92R	07/16/2019 10:35	1.16	12.06	-117.7	6.64	NM	2.057	18.02	6.6
MW-92R	07/16/2019 10:40	1.37	12.13	-108.7	6.64	NM	2.050	18.68	5.6
MW-92R	07/16/2019 10:45	1.43	12.17	-104.0	6.64	NM	2.042	18.74	4.9
MW-92R	07/16/2019 10:50	1.45	12.22	-101.5	6.64	NM	2.051	18.55	4.5
MW-92R	07/16/2019 13:35	1.45	NM	-101.5	6.64	NM	2.051	18.55	4.5
MW-92R	07/16/2019 13:51	1.52	14.00	-85.0	6.64	1.03	2.015	16.73	17.6
MW-92R	07/16/2019 14:05	1.67	13.65	-84.4	6.64	1.03	2.011	16.63	27.1
MW-92R	10/18/2019 12:30	1.44	12.73	-108.8	6.76	NM	1.979	18.76	6.2
MW-92R	10/18/2019 12:35	1.10	12.86	-115.1	6.78	NM	1.982	19.18	-2.6
MW-92R	10/18/2019 12:40	0.76	12.92	-119.0	6.78	NM	1.980	19.78	-1.5
MW-92R	10/18/2019 12:45	1.31	12.96	-122.3	6.76	NM	1.954	20.11	-0.2
MW-92R	10/18/2019 12:50	0.85	13.00	-122.4	6.76	NM	1.870	19.62	3.1
MW-92R	10/18/2019 12:55	0.44	13.03	-115.8	6.76	NM	1.756	19.20	46.8
MW-92R	10/18/2019 13:00	0.36	13.03	-105.2	6.75	NM	1.720	19.42	3.0
MW-92R	10/18/2019 13:05	0.31	13.03	-109.3	6.74	NM	1.738	19.83	44.4
MW-92R	10/18/2019 13:10	0.37	13.03	-111.7	6.74	NM	1.765	19.32	0.5
MW-92R	10/18/2019 13:15	0.28	13.03	-114.2	6.75	NM	1.790	19.99	32.4
MW-92R	10/18/2019 13:55	2.67	14.62	-102.3	6.50	0.98	1.927	18.86	33.3
MW-92R	10/18/2019 14:10	2.81	14.05	-105.3	6.82	0.96	1.888	17.73	348.4
MW-92R	01/17/2020 14:15	1.77	NM	-138.0	6.73	NM	0.933	14.11	9.6
MW-92R	01/17/2020 14:35	1.51	14.20	-115.9	6.70	0.45	0.915	15.15	18.4
MW-92R	04/16/2020 13:00	0.27	NM	-146.9	6.63	NM	1.542	12.85	6.1
MW-92R	04/16/2020 13:15	6.63	13.82	-126.4	6.62	0.75	1.478	13.11	43.1
MW-0093R	12/18/2015 10:15	2.80	6.70	-29.0	6.27	0.63	10.970	18.25	2403.9

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-0093R	12/18/2015 10:53	7.59	6.35	-288.0	9.52	0.03	0.611	14.56	55.7
MW-0093R	01/29/2016 11:02	10.43	5.59	-9.0	10.35	0.03	0.618	8.73	27.2
MW-0093R	01/29/2016 15:17	6.66	5.59	-100.0	6.02	0.56	9.944	15.65	366.8
MW-0093R	04/20/2016 09:29	0.80	5.91	-114.0	6.35	0.11	2.069	14.05	167.4
MW-0093R	04/20/2016 10:10	0.64	6.19	-68.0	6.49	0.41	7.447	14.00	1758.2
MW-0093R	06/30/2016 12:05	5.06	5.50	-92.0	6.60	0.08	1.642	19.72	64.2
MW-0093R	06/30/2016 13:47	4.42	6.40	-121.0	6.70	0.57	10.030	17.80	920.0
MW-0093R	10/07/2016 09:55	0.61	6.47	-163.0	6.53	0.06	1.273	22.96	71.0
MW-0093R	10/07/2016 11:02	0.32	6.97	-86.0	7.24	0.25	4.703	20.94	1051.6
MW-0093R	01/10/2017 12:11	0.13	5.79	-44.0	6.75	0.52	9.282	15.75	53.2
MW-0093R	01/10/2017 14:45	1.08	7.62	-41.0	6.61	2.51	39.240	16.76	958.1
MW-0093R	04/07/2017 09:59	3.62	4.56	-116.0	8.25	0.11	2.068	11.45	123.2
MW-0093R	04/07/2017 11:54	2.60	5.08	-19.0	7.28	0.16	3.033	13.12	1686.7
MW-0093R	07/07/2017 11:50	0.00	5.45	-37.0	6.83	0.27	4.927	19.18	109.3
MW-0093R	07/07/2017 14:06	0.12	5.52	-79.0	6.63	0.66	11.500	19.81	6.8
MW-0093R	07/07/2017 14:23	1.98	6.58	-58.0	6.27	1.96	31.240	16.48	2324.1
MW-0093R	10/06/2017 10:21	0.69	6.38	44.0	6.62	0.46	8.180	21.60	39.6
MW-0093R	10/06/2017 10:34	0.47	6.13	61.0	6.77	0.53	9.371	22.79	18.0
MW-0093R	10/06/2017 11:11	1.69	6.71	63.0	6.78	0.49	8.676	21.41	690.6
MW-0093R	01/11/2018 12:34	3.21	6.26	123.0	7.68	0.09	1.738	13.12	77.4
MW-0093R	01/11/2018 12:36	1.72	NM	62.0	7.48	0.10	1.993	12.80	64.4
MW-0093R	01/11/2018 12:38	1.07	NM	13.0	7.33	0.11	2.059	13.94	55.2
MW-0093R	01/11/2018 12:41	0.77	NM	-12.0	7.25	0.11	2.124	14.06	42.5
MW-0093R	01/11/2018 12:43	0.60	NM	-24.0	7.20	0.11	2.174	14.15	36.5
MW-0093R	01/11/2018 12:46	0.47	NM	-30.0	7.17	0.11	2.203	14.36	34.1
MW-0093R	01/11/2018 12:48	0.41	NM	-33.0	7.14	0.11	2.218	14.40	23.9
MW-0093R	01/11/2018 12:51	0.36	NM	-35.0	7.12	0.12	2.237	14.39	21.7
MW-0093R	01/11/2018 12:53	0.33	NM	-36.0	7.11	0.12	2.247	14.50	20.0
MW-0093R	01/11/2018 12:56	0.30	NM	-37.0	7.09	0.12	2.262	14.38	20.6
MW-0093R	01/11/2018 12:58	0.28	NM	-37.0	7.08	0.12	2.287	14.30	16.1
MW-0093R	01/11/2018 13:01	0.26	NM	-38.0	7.08	0.12	2.305	14.25	17.9
MW-0093R	01/11/2018 13:03	0.25	NM	-38.0	7.07	0.12	2.329	14.16	15.8
MW-0093R	01/11/2018 13:05	0.23	NM	-38.0	7.06	0.12	2.333	14.22	14.6
MW-0093R	01/11/2018 13:08	0.22	NM	-38.0	7.06	0.12	2.339	14.23	13.0
MW-0093R	01/11/2018 13:10	0.20	NM	-39.0	7.05	0.12	2.343	14.25	12.2
MW-0093R	01/11/2018 13:13	0.19	NM	-39.0	7.05	0.12	2.352	14.31	11.5
MW-0093R	01/11/2018 13:15	0.17	NM	-39.0	7.04	0.12	2.369	14.22	11.9
MW-0093R	01/11/2018 13:18	0.16	NM	-39.0	7.04	0.12	2.381	14.19	11.7
MW-0093R	01/11/2018 13:20	0.15	NM	-39.0	7.04	0.12	2.396	14.07	10.9
MW-0093R	01/11/2018 13:23	0.14	6.30	-40.0	7.04	0.12	2.408	14.00	12.7
MW-0093R	01/12/2018 10:38	3.68	6.19	116.0	6.64	0.31	5.741	14.82	62.0
MW-0093R	01/12/2018 13:22	0.14	6.30	-40.0	7.04	0.12	2.416	13.86	12.7
MW-0093R	01/12/2018 13:43	7.13	7.77	25.0	6.90	0.20	3.815	16.09	684.3
MW-0093R	04/05/2018 10:30	9.06	5.09	-53.0	7.26	0.06	1.115	10.43	39.5
MW-0093R	04/05/2018 10:32	2.91	NM	-59.0	6.95	0.06	1.207	11.31	10.0
MW-0093R	04/05/2018 10:34	2.21	NM	-52.0	6.87	0.06	1.208	11.38	7.6
MW-0093R	04/05/2018 10:37	1.97	NM	-46.0	6.80	0.06	1.196	11.48	10.1
MW-0093R	04/05/2018 10:39	1.78	NM	-43.0	6.76	0.06	1.179	11.62	13.4
MW-0093R	04/05/2018 10:41	1.66	NM	-42.0	6.72	0.06	1.182	11.84	7.1
MW-0093R	04/05/2018 10:43	1.60	NM	-41.0	6.70	0.06	1.189	12.10	11.7
MW-0093R	04/05/2018 10:46	1.54	NM	-40.0	6.68	0.06	1.190	12.22	9.0
MW-0093R	04/05/2018 10:48	1.50	NM	-39.0	6.67	0.06	1.201	12.22	8.5
MW-0093R	04/05/2018 10:50	1.53	NM	-38.0	6.67	0.06	1.198	12.02	6.5
MW-0093R	04/05/2018 10:52	1.49	NM	-37.0	6.65	0.06	1.189	12.30	5.9
MW-0093R	04/05/2018 10:55	1.50	NM	-37.0	6.65	0.06	1.200	12.28	3.9
MW-0093R	04/05/2018 10:57	1.50	NM	-37.0	6.65	0.06	1.180	12.18	82.7
MW-0093R	04/05/2018 10:59	1.47	NM	-36.0	6.63	0.06	1.194	12.33	82.9
MW-0093R	04/05/2018 11:01	1.46	4.85	-36.0	6.62	0.06	1.220	12.39	80.5
MW-0093R	04/06/2018 10:08	1.57	4.89	-50.0	6.55	0.06	1.207	11.71	67.7
MW-0093R	04/06/2018 11:01	1.46	4.85	-36.0	6.62	0.06	1.224	12.27	80.5
MW-0093R	04/06/2018 11:23	5.35	5.35	28.0	6.61	0.10	1.953	12.51	393.8
MW-0093R	07/05/2018 08:26	2.93	5.34	-128.0	6.50	0.06	1.185	24.98	15.9
MW-0093R	07/05/2018 08:29	1.10	NM	-136.0	6.34	0.06	1.185	21.54	8.5
MW-0093R	07/05/2018 08:31	0.82	NM	-133.0	6.41	0.06	1.183	21.21	6.2
MW-0093R	07/05/2018 08:33	0.77	NM	-133.0	6.46	0.06	1.185	21.16	7.3
MW-0093R	07/05/2018 08:35	0.74	NM	-133.0	6.51	0.06	1.176	21.04	6.6
MW-0093R	07/05/2018 08:38	0.70	NM	-133.0	6.54	0.06	1.180	20.75	7.2
MW-0093R	07/05/2018 08:40	0.68	5.32	-134.0	6.57	0.06	1.183	20.70	6.6
MW-0093R	07/06/2018 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-0093R	07/06/2018 08:40	0.68	5.32	-134.0	6.57	0.06	1.178	20.88	6.6
MW-0093R	07/06/2018 09:06	6.56	6.56	-115.0	6.63	0.15	2.949	17.20	432.3

Table 6a
Field Parameter Results in Groundwater - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-0093R	**07/06/2018 09:55**	1.06	5.34	-103.0	6.48	0.07	1.296	20.40	92.5
MW-0093R	**11/13/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-0093R	**11/13/2018 10:30**	0.54	5.20	-92.0	6.74	1.08	2.091	18.81	1.2
MW-0093R	**11/13/2018 10:40**	0.47	5.37	-84.7	6.68	1.28	2.468	18.94	1.2
MW-0093R	**11/13/2018 10:50**	0.47	5.43	-83.8	6.66	1.33	2.560	18.97	0.9
MW-0093R	**01/17/2019 13:55**	0.49	5.74	-144.6	6.95	0.52	1.033	14.80	17.8
MW-0093R	**01/17/2019 14:17**	0.87	4.90	-79.5	6.69	11.01	1.968	15.02	0.0
MW-0093R	**01/17/2019 14:27**	0.64	4.99	-68.4	6.79	1.02	1.543	15.04	145.0
MW-93R	**04/17/2019 09:25**	4.56	NM	-121.7	6.91	NM	1.061	13.18	40.6
MW-93R	**04/17/2019 09:59**	3.02	4.69	-85.8	6.64	1.21	2.345	12.98	1.8
MW-93R	**07/17/2019 09:55**	0.94	NM	-104.2	6.65	NM	1.849	19.58	3.1
MW-93R	**07/17/2019 10:05**	2.28	4.91	-134.6	6.86	NM	0.918	20.22	16.0
MW-93R	**07/17/2019 10:10**	1.64	5.16	-135.9	6.85	NM	0.920	20.37	9.6
MW-93R	**07/17/2019 10:15**	1.31	5.28	-136.7	6.85	NM	0.925	19.99	6.0
MW-93R	**07/17/2019 10:19**	0.91	5.77	-84.4	6.55	1.28	2.468	17.96	2.6
MW-93R	**07/17/2019 10:20**	1.14	5.35	-135.1	6.83	NM	0.980	19.95	5.1
MW-93R	**07/17/2019 10:25**	1.05	5.35	-129.4	6.79	NM	1.144	19.66	5.3
MW-93R	**07/17/2019 10:30**	1.02	5.32	-121.6	6.74	NM	1.338	19.83	4.1
MW-93R	**07/17/2019 10:35**	0.97	5.36	-116.8	6.71	1.30	1.493	19.56	3.9
MW-93R	**07/17/2019 10:40**	0.95	5.38	-111.7	6.68	NM	1.636	19.57	3.8
MW-93R	**07/17/2019 10:45**	0.96	5.39	-106.2	6.65	NM	1.775	19.69	3.0
MW-93R	**07/17/2019 10:50**	0.94	5.42	-104.2	6.65	NM	1.849	19.58	3.1
MW-93R	**07/17/2019 13:00**	1.11	5.51	-78.9	6.53	NM	2.466	20.08	2.6
MW-93R	**10/15/2019 12:15**	2.82	6.45	-97.7	6.67	NM	0.622	22.53	10.9
MW-93R	**10/15/2019 12:20**	0.89	6.62	-123.0	6.72	NM	0.462	21.31	2.6
MW-93R	**10/15/2019 12:25**	3.18	6.52	-115.6	6.75	NM	0.462	22.21	15.2
MW-93R	**10/15/2019 12:30**	1.44	6.61	-126.5	6.73	NM	0.476	21.45	5.6
MW-93R	**10/15/2019 12:35**	0.84	6.65	-114.5	6.61	NM	0.856	21.04	1.9
MW-93R	**10/15/2019 12:40**	0.74	6.67	-105.7	6.56	NM	1.106	21.23	0.9
MW-93R	**10/15/2019 12:45**	0.62	6.65	-98.3	6.53	NM	1.259	21.04	0.6
MW-93R	**10/15/2019 12:50**	0.59	6.64	-94.2	6.50	NM	1.345	21.30	0.4
MW-93R	**10/15/2019 12:55**	0.58	6.66	-91.6	6.49	NM	1.409	21.31	0.3
MW-93R	**10/15/2019 13:00**	0.56	6.65	-90.2	6.48	NM	1.458	21.33	0.3
MW-93R	**10/15/2019 13:23**	0.56	6.95	-95.2	6.44	0.80	1.577	20.69	0.4
MW-93R	**10/15/2019 13:40**	0.60	6.52	-67.4	6.42	0.84	1.667	21.16	5.3
MW-93R	**01/22/2020 12:20**	3.70	NM	-66.1	6.63	NM	1.573	14.84	1.0
MW-93R	**01/22/2020 12:35**	0.73	6.40	-77.7	6.60	0.93	1.813	15.10	3.5
MW-93R	**04/17/2020 09:15**	0.25	NM	-122.6	6.31	NM	1.556	13.70	7.5
MW-93R	**04/17/2020 09:45**	0.28	6.45	-68.8	6.26	0.92	1.795	13.75	8.7

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-11R	**10/11/2010 13:52**	3.45	8.47	-38.0	5.82	0.00	0.750	21.20	19.6
MW-11R	**10/11/2010 13:54**	1.77	8.47	-44.0	5.91	0.00	0.750	21.60	19.4
MW-11R	**10/11/2010 13:56**	1.57	8.47	-48.0	5.94	0.00	0.750	21.90	21.5
MW-11R	**10/11/2010 13:58**	0.59	8.47	-55.0	5.99	0.00	0.750	22.40	27.6
MW-11R	**10/11/2010 14:00**	0.60	8.47	-56.0	5.99	0.00	0.750	22.40	27.6
MW-11R	**10/11/2010 14:02**	0.47	8.47	-57.0	6.00	0.00	0.750	22.30	28.2
MW-11R	**10/11/2010 14:04**	0.36	8.48	-57.0	6.01	0.00	0.750	22.10	31.1
MW-11R	**10/11/2010 14:06**	0.39	8.48	-58.0	6.01	0.00	0.750	22.10	34.3
MW-11R	**10/11/2010 14:08**	0.40	8.48	-59.0	6.01	0.00	0.740	22.20	37.1
MW-11R	**10/11/2010 14:10**	0.34	8.48	-59.0	6.01	0.00	0.740	22.10	34.4
MW-11R	**10/11/2010 14:12**	0.25	8.49	-60.0	6.01	0.00	0.740	22.10	22.7
MW-11R	**10/11/2010 14:14**	0.22	8.49	-61.0	6.02	0.00	0.740	22.10	24.7
MW-11R	**10/11/2010 14:16**	0.20	8.49	-61.0	6.02	0.00	0.740	22.30	25.9
MW-11R	**10/11/2010 14:54**	1.02	14.91	-9.0	5.99	0.10	1.200	18.00	-5.0
MW-11R	**10/12/2010 10:10**	0.00	9.51	-31.0	5.93	0.00	0.700	20.00	71.5
MW-11R	**05/04/2011 14:41**	5.90	5.64	-4.0	6.16	0.07	1.070	12.49	12.9
MW-11R	**05/04/2011 14:43**	2.91	NM	-26.0	6.21	0.07	1.066	12.37	3.2
MW-11R	**05/04/2011 14:45**	1.86	NM	-34.0	6.23	0.07	1.065	12.35	2.6
MW-11R	**05/04/2011 14:47**	1.28	NM	-38.0	6.24	0.07	1.065	12.32	3.9
MW-11R	**05/04/2011 14:49**	0.92	NM	-41.0	6.24	0.07	1.066	12.36	3.2
MW-11R	**05/04/2011 14:51**	0.72	NM	-43.0	6.25	0.07	1.065	12.31	3.2
MW-11R	**05/04/2011 14:54**	0.65	6.13	-44.0	6.25	0.07	1.064	12.28	3.6
MW-11R	**05/04/2011 14:55**	0.65	6.13	-44.0	6.25	0.07	1.405	6.25	3.6
MW-11R	**05/04/2011 15:38**	2.55	13.81	-6.0	6.25	0.07	1.328	6.25	108.2
MW-11R	**05/05/2011 12:37**	2.47	7.60	-5.0	6.20	0.03	0.621	6.20	46.5
MW-11R	**08/11/2011 13:59**	1.33	9.15	14.0	6.39	0.04	0.708	24.75	1.7
MW-11R	**08/11/2011 14:01**	0.84	NM	-17.0	6.47	0.03	0.681	22.95	3.2
MW-11R	**08/11/2011 14:04**	0.61	NM	-27.0	6.48	0.03	0.661	21.69	3.4
MW-11R	**08/11/2011 14:06**	0.50	NM	-33.0	6.48	0.03	0.655	21.56	2.6
MW-11R	**08/11/2011 14:09**	0.45	NM	-37.0	6.48	0.04	0.669	21.54	2.7
MW-11R	**08/11/2011 14:11**	0.40	9.53	-40.0	6.48	0.04	0.665	21.14	3.2
MW-11R	**08/11/2011 14:12**	0.40	9.53	-40.0	6.48	0.04	0.718	21.14	3.2
MW-11R	**08/11/2011 14:55**	2.06	17.32	-14.0	6.62	0.03	0.683	16.55	116.6
MW-11R	**08/12/2011 12:41**	0.00	10.43	-29.0	5.90	0.00	0.592	16.90	22.0
MW-11R	**11/07/2011 12:13**	7.33	7.17	-24.0	5.97	0.03	0.575	18.55	9.6
MW-11R	**11/07/2011 12:15**	5.97	NM	-41.0	6.01	0.03	0.579	18.98	7.9
MW-11R	**11/07/2011 12:17**	5.55	NM	-52.0	6.03	0.03	0.581	19.05	6.1
MW-11R	**11/07/2011 12:20**	5.37	NM	-58.0	6.02	0.03	0.579	19.15	4.7
MW-11R	**11/07/2011 12:22**	5.56	NM	-63.0	6.03	0.03	0.580	19.11	4.0
MW-11R	**11/07/2011 12:24**	5.32	NM	-67.0	6.04	0.03	0.580	19.11	6.3
MW-11R	**11/07/2011 12:26**	5.32	7.53	-69.0	6.05	0.03	0.581	19.07	5.1
MW-11R	**11/07/2011 12:27**	5.32	7.53	-69.0	6.05	0.03	0.655	19.07	5.1
MW-11R	**11/07/2011 13:02**	5.75	16.79	-27.0	6.12	0.03	0.683	18.32	384.9
MW-11R	**11/08/2011 11:25**	1.40	7.87	-41.0	5.92	0.03	0.564	19.21	20.5
MW-11R	**02/08/2012 14:08**	-0.11	6.42	26.0	6.23	0.05	1.074	9.85	10.2
MW-11R	**02/08/2012 14:10**	-0.13	NM	11.0	6.24	0.05	1.066	11.01	1.9
MW-11R	**02/08/2012 14:13**	-0.14	NM	0.0	6.26	0.05	1.081	11.71	1.3
MW-11R	**02/08/2012 14:15**	34.68	NM	-8.0	6.27	0.05	1.079	11.82	2.1
MW-11R	**02/08/2012 14:18**	4.85	NM	-14.0	6.28	0.05	1.081	11.74	1.9
MW-11R	**02/08/2012 14:21**	3.15	NM	-19.0	6.28	0.05	1.078	11.70	2.4
MW-11R	**02/08/2012 14:23**	2.43	NM	-23.0	6.29	0.05	1.079	11.89	2.1
MW-11R	**02/08/2012 14:26**	2.03	NM	-26.0	6.29	0.05	1.076	12.21	2.2
MW-11R	**02/08/2012 14:28**	1.80	NM	-29.0	6.30	0.05	1.082	12.15	2.4
MW-11R	**02/08/2012 14:31**	1.64	NM	-31.0	6.30	0.05	1.074	11.97	2.5
MW-11R	**02/08/2012 14:33**	1.49	NM	-33.0	6.30	0.05	1.076	12.27	2.4
MW-11R	**02/08/2012 14:36**	1.37	NM	-35.0	6.31	0.05	1.081	12.16	3.0
MW-11R	**02/08/2012 14:38**	1.34	NM	-36.0	6.31	0.05	1.075	12.21	2.6
MW-11R	**02/08/2012 14:41**	1.23	NM	-38.0	6.31	0.05	1.077	12.20	2.7
MW-11R	**02/08/2012 14:43**	1.20	7.73	-39.0	6.31	0.05	1.081	11.92	2.8
MW-11R	**02/08/2012 14:44**	1.20	7.73	-39.0	6.31	0.05	1.081	11.92	2.8
MW-11R	**02/08/2012 15:30**	-0.14	17.18	-12.0	6.46	0.05	1.011	13.61	2367.4
MW-11R	**02/09/2012 12:01**	2.23	7.93	42.0	6.08	0.03	0.592	13.53	13.9
MW-11R	**04/18/2012 08:37**	1.58	6.87	-47.0	6.34	0.05	1.022	15.85	11.9
MW-11R	**04/18/2012 08:40**	0.94	NM	-48.0	6.36	0.05	1.012	13.38	21.6
MW-11R	**04/18/2012 08:43**	0.65	NM	-50.0	6.36	0.05	1.018	13.31	10.6
MW-11R	**04/18/2012 08:45**	0.59	NM	-51.0	6.36	0.05	1.011	13.30	10.5
MW-11R	**04/18/2012 08:48**	0.52	NM	-52.0	6.37	0.05	1.020	13.29	10.5
MW-11R	**04/18/2012 08:51**	0.44	NM	-52.0	6.37	0.05	1.019	13.24	11.0
MW-11R	**04/18/2012 08:53**	0.47	NM	-53.0	6.37	0.05	1.016	13.36	11.2
MW-11R	**04/18/2012 08:56**	0.48	NM	-53.0	6.37	0.05	1.022	13.44	10.0
MW-11R	**04/18/2012 08:59**	0.47	NM	-53.0	6.37	0.05	1.018	13.37	12.5

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-11R	**04/18/2012 09:01**	0.36	NM	-54.0	6.38	0.05	1.018	13.30	12.3
MW-11R	**04/18/2012 09:04**	0.34	NM	-54.0	6.38	0.05	1.018	13.39	12.7
MW-11R	**04/18/2012 09:07**	0.34	7.50	-54.0	6.39	0.05	1.026	13.43	12.3
MW-11R	**04/18/2012 09:08**	0.34	7.50	-54.0	6.39	0.05	1.026	13.43	12.3
MW-11R	**04/18/2012 10:05**	1.95	10.63	-52.0	6.45	0.06	1.165	13.47	4.0
MW-11R	**04/19/2012 08:49**	0.18	7.73	-35.0	6.36	0.04	0.859	12.91	18.2
MW-11R	**07/17/2012 14:55**	0.95	8.05	-63.0	6.22	0.05	0.991	32.06	4.7
MW-11R	**07/17/2012 14:57**	0.83	NM	-67.0	6.34	0.05	1.005	26.84	5.9
MW-11R	**07/17/2012 15:00**	0.54	NM	-68.0	6.29	0.05	0.980	24.97	6.5
MW-11R	**07/17/2012 15:02**	0.45	NM	-70.0	6.26	0.05	1.035	24.81	7.4
MW-11R	**07/17/2012 15:04**	0.41	NM	-71.0	6.25	0.05	1.065	24.76	7.7
MW-11R	**07/17/2012 15:06**	0.38	NM	-72.0	6.37	0.05	1.070	24.43	7.6
MW-11R	**07/17/2012 15:08**	0.35	NM	-72.0	6.36	0.05	1.089	24.69	8.4
MW-11R	**07/17/2012 15:10**	0.33	NM	-74.0	6.34	0.05	1.078	24.82	8.0
MW-11R	**07/17/2012 15:13**	0.33	8.31	-75.0	6.29	0.50	1.085	25.09	8.1
MW-11R	**07/17/2012 15:54**	5.50	15.21	-26.0	6.31	0.50	1.094	20.64	64.8
MW-11R	**07/18/2012 11:18**	0.02	9.18	-32.0	6.14	0.40	0.749	16.24	18.1
MW-11R	**07/19/2012 08:13**	2.35	3.57	90.0	5.18	0.16	2.980	21.88	30.4
MW-11R	**07/19/2012 08:15**	1.58	NM	100.0	5.13	0.20	3.670	19.70	6.2
MW-11R	**07/19/2012 08:17**	1.04	NM	106.0	5.07	0.19	3.590	19.79	6.3
MW-11R	**07/19/2012 08:19**	0.74	NM	110.0	5.06	0.18	3.479	19.19	7.7
MW-11R	**07/19/2012 08:21**	0.54	NM	113.0	5.05	0.17	3.284	19.04	9.1
MW-11R	**07/19/2012 08:23**	0.45	NM	115.0	5.18	0.17	3.155	19.10	9.1
MW-11R	**07/19/2012 08:25**	0.39	NM	117.0	5.17	0.16	3.013	19.37	8.6
MW-11R	**07/19/2012 08:27**	0.34	NM	119.0	5.16	0.15	2.864	19.28	8.6
MW-11R	**07/19/2012 08:29**	0.31	NM	121.0	4.96	0.14	2.748	19.37	10.2
MW-11R	**07/19/2012 08:31**	0.29	NM	122.0	4.94	0.14	2.643	19.34	11.2
MW-11R	**07/19/2012 08:33**	0.26	NM	124.0	4.93	0.13	2.494	19.52	10.8
MW-11R	**07/19/2012 08:35**	7.84	NM	115.0	5.10	0.09	1.810	20.14	288.6
MW-11R	**07/19/2012 08:37**	0.86	NM	122.0	4.94	0.15	2.835	18.75	11.8
MW-11R	**07/19/2012 08:39**	0.46	NM	126.0	4.91	0.13	2.452	19.27	6.1
MW-11R	**07/19/2012 08:41**	0.38	NM	128.0	4.90	0.12	2.334	19.71	5.1
MW-11R	**07/19/2012 08:42**	0.35	NM	129.0	4.90	0.12	2.346	19.64	5.9
MW-11R	**07/19/2012 08:44**	0.32	NM	130.0	4.89	0.12	2.348	19.70	6.3
MW-11R	**07/19/2012 08:46**	0.30	NM	130.0	4.90	0.12	2.374	19.73	5.7
MW-11R	**07/19/2012 08:48**	0.30	5.12	130.0	4.89	0.12	2.373	19.71	6.2
MW-11R	**10/22/2012 15:02**	6.45	NM	-81.0	6.27	0.00	0.780	19.60	25.8
MW-11R	**10/22/2012 15:04**	5.39	NM	-91.0	6.29	0.00	0.770	20.00	9.6
MW-11R	**10/22/2012 15:06**	4.98	NM	-94.0	6.31	0.00	0.780	20.20	8.8
MW-11R	**10/22/2012 15:08**	4.84	NM	-98.0	6.34	0.00	0.790	20.10	8.9
MW-11R	**10/22/2012 15:10**	4.76	NM	-99.0	6.33	0.00	0.780	20.10	10.5
MW-11R	**10/22/2012 15:12**	4.70	NM	-102.0	6.34	0.00	0.790	20.10	9.7
MW-11R	**10/22/2012 15:14**	4.60	NM	-103.0	6.34	0.00	0.790	20.20	13.8
MW-11R	**10/22/2012 15:16**	4.54	NM	-105.0	6.35	0.00	0.790	20.20	22.0
MW-11R	**10/22/2012 15:18**	4.48	NM	-106.0	6.35	0.00	0.780	20.30	26.8
MW-11R	**10/22/2012 15:20**	4.44	NM	-107.0	6.35	0.00	0.780	20.30	20.5
MW-11R	**10/22/2012 15:22**	4.43	NM	-108.0	6.36	0.00	0.780	20.20	19.5
MW-11R	**10/22/2012 15:24**	4.40	9.00	-109.0	6.36	0.00	0.784	20.24	20.1
MW-11R	**10/22/2012 16:01**	6.57	16.59	-97.0	6.35	0.00	0.748	19.11	10.4
MW-11R	**10/23/2012 11:46**	4.36	9.71	-47.0	6.06	0.00	0.564	20.21	58.2
MW-11R	**02/11/2013 13:57**	3.28	6.42	-120.0	6.21	0.07	1.378	10.19	10.5
MW-11R	**02/11/2013 14:00**	2.12	NM	-145.0	6.24	0.07	1.338	11.52	2.5
MW-11R	**02/11/2013 14:03**	1.29	NM	-151.0	6.23	0.07	1.304	11.86	3.8
MW-11R	**02/11/2013 14:05**	0.90	NM	-150.0	6.25	0.07	1.309	12.14	2.8
MW-11R	**02/11/2013 14:08**	0.69	NM	-149.0	6.25	0.07	1.325	12.08	2.7
MW-11R	**02/11/2013 14:10**	0.68	NM	-148.0	6.26	0.07	1.340	11.93	2.7
MW-11R	**02/11/2013 14:13**	0.52	NM	-149.0	6.26	0.07	1.345	12.05	2.9
MW-11R	**02/11/2013 14:16**	0.48	NM	-147.0	6.27	0.07	1.359	11.80	4.1
MW-11R	**02/11/2013 14:18**	0.46	NM	-148.0	6.27	0.07	1.365	11.83	2.9
MW-11R	**02/11/2013 14:21**	0.42	NM	-149.0	6.27	0.07	1.368	11.81	2.9
MW-11R	**02/11/2013 14:24**	0.39	NM	-150.0	6.27	0.07	1.364	11.95	2.8
MW-11R	**02/11/2013 14:26**	0.38	6.46	-153.0	6.27	0.07	1.369	11.95	2.8
MW-11R	**02/11/2013 14:27**	0.38	6.46	-153.0	6.27	0.07	1.369	12.09	2.8
MW-11R	**02/11/2013 15:10**	2.78	15.13	-114.0	6.29	0.08	1.403	14.75	699.4
MW-11R	**02/12/2013 10:55**	1.33	8.10	-239.0	6.09	0.05	1.036	13.84	17.0
MW-11R	**05/15/2013 15:32**	0.48	6.39	-207.0	6.19	0.11	2.118	15.73	14.0
MW-11R	**05/15/2013 16:12**	2.25	13.81	-121.0	6.65	0.08	1.497	13.90	2124.2
MW-11R	**05/16/2013 12:07**	0.24	6.97	-180.0	6.14	0.07	1.474	13.06	14.0
MW-11R	**10/21/2013 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**10/21/2013 15:31**	0.28	12.03	-270.0	6.03	0.11	2.113	20.33	2.4
MW-11R	**10/21/2013 16:04**	0.40	16.12	-186.0	5.97	0.13	2.582	18.14	1154.9

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-11R	**10/22/2013 12:00**	0.15	12.73	-316.0	5.90	0.10	1.894	18.90	106.5
MW-11R	**03/24/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**03/24/2014 15:15**	0.42	6.38	-310.0	6.26	0.13	2.574	9.31	1.0
MW-11R	**03/24/2014 15:56**	1.94	10.51	-325.0	6.18	0.11	2.206	11.34	85.2
MW-11R	**03/25/2014 11:47**	0.85	7.33	-426.0	6.21	0.17	3.326	11.75	26.6
MW-11R	**05/12/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**05/12/2014 15:16**	1.60	6.11	-325.0	6.14	0.07	1.453	17.94	5.0
MW-11R	**05/12/2014 15:55**	3.68	14.75	-158.0	6.63	0.05	1.066	16.93	60.2
MW-11R	**05/13/2014 11:23**	2.83	8.00	-220.0	6.15	0.05	1.041	15.94	15.8
MW-11R	**07/30/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**07/30/2014 11:01**	0.31	7.44	-243.0	6.24	0.06	1.251	20.23	14.4
MW-11R	**07/30/2014 11:46**	0.81	16.94	-249.0	6.46	0.04	0.802	15.79	1015.5
MW-11R	**07/31/2014 10:29**	0.22	8.05	-335.0	6.22	0.03	0.606	16.15	3.0
MW-11R	**10/20/2014 10:27**	0.11	10.06	-66.0	6.10	0.04	0.801	19.30	7.0
MW-11R	**10/20/2014 11:09**	0.19	16.68	-115.0	6.11	0.04	0.899	18.06	474.9
MW-11R	**10/21/2014 00:00**	NM	10.54	NM	NM	NM	NM	NM	NM
MW-11R	**03/18/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**03/18/2015 10:57**	0.20	6.11	-290.0	6.63	0.07	1.343	9.24	2.3
MW-11R	**03/18/2015 12:51**	0.76	16.82	-129.0	6.47	0.06	1.196	13.33	-0.1
MW-11R	**03/19/2015 00:00**	NM	7.36	NM	NM	NM	NM	NM	NM
MW-11R	**05/22/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**05/22/2015 10:42**	-1.53	8.90	-126.0	6.21	NM	2.320	12.59	14.5
MW-11R	**05/22/2015 12:37**	1.51	13.69	-98.0	6.55	NM	2.225	12.88	605.3
MW-11R	**09/29/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**09/29/2015 15:02**	3.15	16.48	-17.0	6.42	0.04	0.895	17.74	1464.5
MW-11R	**09/29/2015 15:40**	NM	11.81	-79.0	6.10	0.04	0.869	17.06	46.9
MW-11R	**11/11/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**11/11/2015 11:10**	1.01	9.81	314.0	5.80	0.04	0.876	18.97	13.5
MW-11R	**11/11/2015 14:27**	0.90	12.44	-88.0	6.48	0.04	0.822	22.61	1107.5
MW-11R	**02/25/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**02/25/2016 12:21**	0.03	7.08	-96.0	5.89	0.61	10.730	13.19	17.0
MW-11R	**02/25/2016 16:05**	3.37	15.95	-116.0	6.17	0.06	1.260	13.80	42.4
MW-11R	**04/21/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**04/21/2016 12:38**	-0.42	7.84	-47.0	5.77	0.05	0.979	13.13	6.6
MW-11R	**04/21/2016 15:55**	1.75	16.84	-54.0	6.49	0.14	2.635	14.63	1016.9
MW-11R	**01/05/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**01/05/2017 10:50**	NM	8.15	67.0	6.05	0.05	1.085	16.11	12.7
MW-11R	**01/05/2017 13:16**	2.33	11.18	-4.0	6.59	0.23	4.301	16.02	39.0
MW-11R	**04/14/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**04/14/2017 09:07**	NM	6.48	NM	NM	0.10	1.920	NM	NM
MW-11R	**04/14/2017 09:10**	NM	7.22	NM	NM	0.12	2.269	NM	NM
MW-11R	**04/14/2017 10:30**	NM	14.28	NM	NM	0.11	2.076	NM	NM
MW-11R	**07/14/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**07/14/2017 11:34**	0.17	8.59	100.0	6.65	1.14	19.120	15.44	1.1
MW-11R	**07/14/2017 14:26**	0.35	7.72	3.0	6.32	1.13	18.929	21.99	1.5
MW-11R	**07/14/2017 15:26**	4.26	15.96	32.0	6.90	0.24	4.507	15.43	4.8
MW-11R	**10/04/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**10/04/2017 11:48**	1.11	9.73	-3.0	6.11	0.60	10.570	19.01	6.7
MW-11R	**10/04/2017 14:42**	0.44	9.53	99.0	6.20	0.59	10.360	20.71	9.4
MW-11R	**10/04/2017 15:18**	2.04	14.75	48.0	7.14	0.48	8.530	18.44	29.0
MW-11R	**10/06/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**10/06/2017 12:00**	0.66	11.86	-59.0	5.96	0.04	0.757	19.48	101.0
MW-11R	**10/06/2017 14:50**	0.52	17.01	-60.0	6.90	0.10	1.889	19.34	153.1
MW-11R	**01/16/2018 14:39**	6.03	6.84	199.0	7.66	0.12	2.246	11.21	5.4
MW-11R	**01/16/2018 14:41**	1.50	NM	186.0	7.50	0.14	2.780	12.05	3.2
MW-11R	**01/16/2018 14:44**	0.80	NM	165.0	7.31	0.16	3.023	12.29	3.1
MW-11R	**01/16/2018 14:46**	0.63	NM	146.0	7.14	0.17	3.217	12.20	3.0
MW-11R	**01/16/2018 14:49**	0.51	NM	129.0	7.02	0.11	2.218	12.11	3.0
MW-11R	**01/16/2018 14:51**	10.65	NM	129.0	6.81	0.00	0.023	11.70	260.0
MW-11R	**01/16/2018 14:53**	11.26	NM	129.0	6.86	0.00	0.024	11.26	5.0
MW-11R	**01/16/2018 14:56**	1.47	NM	120.0	6.89	0.19	3.534	12.24	3.5
MW-11R	**01/16/2018 14:58**	0.65	NM	112.0	6.83	0.19	3.590	12.13	3.6
MW-11R	**01/16/2018 15:01**	0.48	NM	105.0	6.79	0.19	3.635	12.16	3.1
MW-11R	**01/16/2018 15:03**	0.42	NM	98.0	6.75	0.19	3.651	12.39	3.1
MW-11R	**01/16/2018 15:05**	0.39	NM	93.0	6.71	0.20	3.694	12.24	3.1
MW-11R	**01/16/2018 15:08**	0.35	NM	89.0	6.68	0.20	3.741	12.22	3.7
MW-11R	**01/16/2018 15:10**	0.33	NM	86.0	6.65	0.20	3.794	12.07	3.1
MW-11R	**01/16/2018 15:13**	0.30	NM	83.0	6.63	0.20	3.816	12.25	2.9
MW-11R	**01/16/2018 15:15**	0.27	NM	81.0	6.61	0.20	3.834	12.32	3.0
MW-11R	**01/16/2018 15:17**	0.24	NM	78.0	6.59	0.20	3.841	12.39	2.9
MW-11R	**01/16/2018 15:20**	0.22	NM	77.0	6.58	0.21	3.903	12.09	3.0

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-11R	**01/16/2018 15:22**	0.21	NM	75.0	6.56	0.21	3.941	12.02	3.3
MW-11R	**01/16/2018 15:25**	0.21	7.68	74.0	6.54	0.21	3.978	12.01	3.1
MW-11R	**01/19/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**01/19/2018 12:24**	0.96	7.98	27.0	5.95	0.05	1.026	14.85	9.5
MW-11R	**01/19/2018 14:10**	1.17	15.81	252.0	7.60	0.13	2.517	15.24	76.5
MW-11R	**01/19/2018 15:25**	0.21	7.68	74.0	6.54	0.21	3.992	11.87	3.1
MW-11R	**04/03/2018 14:04**	8.11	5.74	-5.0	7.16	0.07	1.473	10.36	2.1
MW-11R	**04/03/2018 14:05**	7.49	NM	-5.0	7.15	0.07	1.486	10.38	2.2
MW-11R	**04/03/2018 14:07**	3.02	NM	-2.0	6.72	0.07	1.485	10.48	2.1
MW-11R	**04/03/2018 14:10**	2.58	NM	7.0	6.55	0.07	1.469	10.48	1.5
MW-11R	**04/03/2018 14:12**	2.44	NM	12.0	6.44	0.07	1.463	10.41	1.9
MW-11R	**04/03/2018 14:14**	2.35	NM	16.0	6.35	0.07	1.458	10.46	1.7
MW-11R	**04/03/2018 14:17**	2.31	NM	18.0	6.28	0.07	1.465	10.53	2.3
MW-11R	**04/03/2018 14:19**	2.30	NM	20.0	6.22	0.07	1.458	10.54	2.1
MW-11R	**04/03/2018 14:22**	2.26	NM	21.0	6.17	0.07	1.452	10.64	1.9
MW-11R	**04/03/2018 14:24**	2.28	NM	22.0	6.14	0.07	1.458	10.50	2.0
MW-11R	**04/03/2018 14:26**	2.23	NM	22.0	6.11	0.07	1.451	10.43	2.2
MW-11R	**04/03/2018 14:29**	2.25	NM	23.0	6.08	0.07	1.450	10.48	2.5
MW-11R	**04/03/2018 14:31**	2.25	NM	23.0	6.06	0.07	1.455	10.54	2.0
MW-11R	**04/03/2018 14:34**	2.22	NM	23.0	6.04	0.07	1.450	10.56	2.3
MW-11R	**04/03/2018 14:36**	2.22	NM	23.0	6.03	0.07	1.449	10.57	2.8
MW-11R	**04/03/2018 14:38**	2.19	NM	23.0	6.02	0.07	1.451	10.76	1.9
MW-11R	**04/03/2018 14:41**	2.18	NM	23.0	6.01	0.07	1.449	10.62	2.2
MW-11R	**04/03/2018 14:43**	2.16	NM	23.0	6.00	0.07	1.445	10.69	2.9
MW-11R	**04/03/2018 14:46**	2.20	NM	23.0	5.99	0.07	1.457	10.60	2.2
MW-11R	**04/03/2018 14:48**	2.17	NM	22.0	5.99	0.07	1.446	10.63	2.5
MW-11R	**04/03/2018 14:50**	2.20	NM	22.0	5.98	0.07	1.452	10.49	2.4
MW-11R	**04/03/2018 14:53**	2.20	6.38	22.0	5.98	0.07	1.445	10.48	2.4
MW-11R	**04/04/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**04/04/2018 11:32**	0.59	8.97	17.0	0.00	0.05	1.059	11.91	9.5
MW-11R	**04/04/2018 14:53**	2.20	6.38	22.0	5.98	0.07	1.450	10.36	2.4
MW-11R	**04/04/2018 15:33**	5.34	14.88	-4.0	7.12	0.07	1.437	12.66	96.2
MW-11R	**08/07/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**08/07/2018 11:19**	0.02	7.78	-80.0	6.28	0.05	1.068	18.28	11.0
MW-11R	**08/07/2018 13:10**	1.30	7.36	-52.0	6.33	0.06	1.135	21.49	24.3
MW-11R	**08/07/2018 13:55**	8.26	13.30	-32.0	6.35	0.12	2.275	17.22	109.4
MW-11R	**11/19/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**11/19/2018 13:10**	3.42	9.42	-52.6	6.41	0.66	1.322	18.27	19.2
MW-11R	**11/19/2018 13:30**	2.95	9.47	-77.7	6.40	0.66	1.315	17.82	27.1
MW-11R	**11/19/2018 13:55**	2.48	6.52	-93.7	6.32	0.54	1.084	17.93	2.5
MW-11R	**01/25/2019 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**01/25/2019 10:50**	0.45	6.63	-42.5	6.32	0.58	1.159	12.38	13.5
MW-11R	**01/25/2019 12:00**	0.38	12.18	-59.5	6.40	0.63	1.256	14.09	14.4
MW-11R	**01/25/2019 12:05**	0.37	12.20	-59.9	6.42	0.61	1.209	14.14	37.8
MW-11R	**04/19/2019 11:30**	0.54	NM	-23.5	6.29	NM	1.409	14.41	2.8
MW-11R	**04/19/2019 13:20**	1.29	15.02	-19.6	6.41	0.66	1.313	15.24	5.6
MW-11R	**07/19/2019 10:05**	1.76	5.81	-66.5	6.23	NM	1.748	19.69	5.4
MW-11R	**07/19/2019 10:10**	1.46	5.93	-75.7	6.31	NM	1.743	19.88	4.4
MW-11R	**07/19/2019 10:15**	1.07	5.99	-90.0	6.39	NM	1.740	19.38	4.9
MW-11R	**07/19/2019 10:20**	0.94	6.07	-94.3	6.38	NM	1.740	18.85	4.7
MW-11R	**07/19/2019 10:25**	0.88	6.13	-96.7	6.35	NM	1.731	19.11	5.9
MW-11R	**07/19/2019 10:30**	0.84	6.18	-98.5	6.29	NM	1.702	19.39	7.9
MW-11R	**07/19/2019 10:35**	0.82	6.23	-101.8	6.26	NM	1.665	19.46	11.6
MW-11R	**07/19/2019 10:40**	0.82	6.29	-103.7	6.24	NM	1.659	19.45	9.2
MW-11R	**07/19/2019 10:45**	0.82	6.32	-104.9	6.23	NM	1.653	19.51	9.1
MW-11R	**07/19/2019 10:50**	0.85	6.35	-106.8	6.23	NM	1.646	19.49	9.6
MW-11R	**07/19/2019 13:10**	0.85	NM	-106.8	6.23	NM	1.646	19.49	9.6
MW-11R	**07/19/2019 14:46**	1.06	11.53	-86.9	6.31	0.78	1.545	18.18	13.1
MW-11R	**07/19/2019 15:00**	1.34	11.24	-87.0	6.31	0.77	1.536	18.90	12.7
MW-11R	**10/09/2019 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-11R	**10/09/2019 08:50**	3.90	9.53	-106.5	6.35	NM	0.623	19.05	2.4
MW-11R	**10/09/2019 08:55**	1.76	9.61	-117.7	6.37	NM	0.607	18.74	2.6
MW-11R	**10/09/2019 09:00**	1.15	9.79	-124.2	6.39	NM	0.589	19.21	1.9
MW-11R	**10/09/2019 09:05**	1.09	9.91	-125.9	6.40	NM	0.589	19.35	2.0
MW-11R	**10/09/2019 09:10**	1.09	10.05	-119.2	6.41	NM	0.590	19.15	1.8
MW-11R	**10/09/2019 09:15**	0.97	10.16	-101.5	6.41	NM	0.588	19.30	1.8
MW-11R	**10/09/2019 09:20**	1.03	10.29	-115.1	6.43	NM	0.586	19.24	1.7
MW-11R	**10/09/2019 09:25**	1.06	10.39	-112.4	6.43	NM	0.585	19.31	1.7
MW-11R	**10/09/2019 09:30**	1.02	10.48	-110.0	6.43	NM	0.584	19.23	1.8
MW-11R	**10/09/2019 15:40**	6.96	13.32	-83.0	6.20	0.20	0.411	17.28	7.7
MW-11R	**10/09/2019 16:00**	7.13	13.91	-54.2	6.18	0.18	0.379	17.26	18.3

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-11R	**01/21/2020 10:25**	0.65	NM	-137.6	6.19	NM	1.305	12.81	6.1
MW-11R	**01/22/2020 08:55**	2.89	7.44	-102.7	6.25	0.33	0.677	13.22	6.2
MW-11R	**04/09/2020 09:05**	2.78	NM	-75.1	6.39	NM	1.097	12.48	0.9
MW-11R	**04/09/2020 10:35**	1.72	15.58	-45.7	6.45	0.44	0.897	13.26	8.3
MW-23R	**05/07/2010 08:43**	3.39	3.76	284.0	6.16	0.00	0.801	13.66	9.5
MW-23R	**05/07/2010 09:40**	0.61	7.79	192.0	5.67	0.10	1.210	14.05	185.0
MW-23R	**10/12/2010 09:48**	0.00	6.92	29.0	5.90	0.00	1.100	18.70	26.0
MW-23R	**10/12/2010 11:00**	1.29	4.62	72.0	5.97	0.00	0.980	19.30	109.0
MW-23R	**05/03/2011 12:18**	0.92	6.65	113.0	6.06	0.05	0.701	11.70	25.0
MW-23R	**05/04/2011 09:55**	3.39	4.27	152.0	5.99	0.00	0.852	12.00	12.3
MW-23R	**08/10/2011 08:57**	7.91	10.74	81.0	6.57	0.05	0.940	18.78	295.1
MW-23R	**08/10/2011 08:58**	4.65	4.01	172.0	6.59	0.03	0.616	19.64	272.4
MW-23R	**02/07/2012 10:40**	NM	3.68	NM	NM	NM	NM	NM	NM
MW-23R	**02/07/2012 12:58**	5.50	10.14	131.0	6.46	0.06	0.844	12.20	41.8
MW-23R	**02/08/2012 08:52**	3.41	4.09	260.0	6.29	0.10	1.280	11.60	18.8
MW-23R	**04/18/2012 13:17**	1.95	7.05	28.0	6.42	0.07	1.345	12.58	138.7
MW-23R	**04/19/2012 10:20**	1.16	4.11	79.0	6.54	0.07	1.358	12.26	20.3
MW-23R	**07/16/2012 16:01**	5.13	6.37	6.0	6.55	0.07	1.387	17.96	90.4
MW-23R	**07/17/2012 11:53**	2.80	4.25	-98.0	6.65	0.90	1.690	17.31	26.3
MW-23R	**10/17/2012 15:05**	5.45	7.96	-37.0	6.53	0.10	1.340	18.41	275.0
MW-23R	**10/18/2012 11:51**	4.45	4.24	113.0	6.62	0.10	1.280	18.39	9.6
MW-23R	**02/06/2013 15:23**	3.13	8.91	-95.0	6.42	0.09	1.811	11.50	362.8
MW-23R	**02/07/2013 10:21**	1.90	4.00	-222.0	6.50	0.10	1.875	10.76	20.9
MW-23R	**05/14/2013 00:00**	NM	3.64	NM	NM	NM	NM	NM	NM
MW-23R	**05/14/2013 11:25**	0.80	7.80	-182.0	6.58	NM	1.801	12.45	205.8
MW-23R	**05/15/2013 10:14**	1.78	3.72	-158.0	6.55	NM	2.030	12.88	10.9
MW-23R	**10/22/2013 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**10/22/2013 13:44**	1.01	7.02	-374.0	6.52	0.11	2.174	17.92	321.6
MW-23R	**10/23/2013 10:34**	1.59	4.13	-386.0	6.56	0.09	1.769	17.64	11.2
MW-23R	**03/20/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**03/20/2014 14:13**	3.80	7.47	-23.0	6.61	NM	1.424	9.57	17.1
MW-23R	**05/08/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**05/08/2014 14:35**	3.32	9.98	-106.0	6.61	NM	1.119	12.11	56.3
MW-23R	**05/09/2014 10:28**	5.82	3.68	-25.0	6.20	NM	0.955	11.29	10.4
MW-23R	**07/29/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**07/29/2014 09:50**	0.94	5.03	-267.0	5.97	NM	1.046	17.59	26.3
MW-23R	**07/30/2014 10:04**	0.05	3.78	235.0	5.94	NM	1.045	18.62	10.8
MW-23R	**10/20/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**10/20/2014 10:08**	3.93	9.84	-51.0	6.31	0.06	1.272	16.62	898.4
MW-23R	**10/21/2014 00:00**	NM	4.04	NM	NM	NM	NM	NM	NM
MW-23R	**03/26/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**03/26/2015 11:33**	7.89	5.49	248.0	4.45	NM	1.404	8.37	10.3
MW-23R	**03/26/2015 12:00**	6.03	4.98	228.0	4.57	2.30	1.373	8.55	6.1
MW-23R	**05/21/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**05/21/2015 10:52**	0.87	3.91	39.0	5.98	0.15	2.901	11.94	11.3
MW-23R	**05/21/2015 11:55**	4.90	6.96	1.0	6.05	0.13	2.500	11.89	27.6
MW-23R	**09/25/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**09/25/2015 11:10**	5.38	4.46	199.0	6.21	0.05	1.037	19.20	5.1
MW-23R	**09/25/2015 14:44**	7.08	10.88	-26.0	7.00	0.07	1.333	18.19	2558.2
MW-23R	**11/11/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**11/11/2015 10:08**	2.04	3.83	494.0	5.79	NM	1.175	16.24	10.8
MW-23R	**11/11/2015 10:44**	8.20	4.82	-57.0	6.51	NM	1.269	16.37	27.2
MW-23R	**02/26/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**02/26/2016 09:42**	7.94	NM	120.0	4.17	0.08	1.680	7.70	12.5
MW-23R	**04/22/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**04/22/2016 09:53**	3.16	3.81	-13.0	5.86	0.21	3.889	11.64	8.4
MW-23R	**04/22/2016 11:15**	2.56	8.30	-34.0	6.40	0.30	5.559	12.31	10.4
MW-23R	**07/12/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**07/12/2016 11:10**	3.94	4.07	84.0	6.20	0.06	1.224	17.62	3.6
MW-23R	**07/12/2016 13:12**	4.85	9.21	-50.0	6.39	0.38	6.883	15.62	21.8
MW-23R	**10/08/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**10/08/2016 09:56**	0.99	4.36	-11.0	5.98	0.06	1.240	19.24	8.5
MW-23R	**10/08/2016 11:45**	2.59	4.79	-113.0	7.96	0.20	3.685	19.07	20.0
MW-23R	**01/06/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**01/06/2017 09:55**	4.99	3.44	14.0	5.19	0.09	1.753	11.98	16.6
MW-23R	**01/06/2017 10:48**	3.37	10.71	6.0	6.46	0.06	1.283	12.40	21.2
MW-23R	**04/14/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**04/14/2017 09:55**	NM	3.52	NM	NM	1.09	3.631	NM	NM
MW-23R	**04/14/2017 13:43**	NM	8.96	NM	NM	0.12	2.386	NM	NM
MW-23R	**05/04/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**05/04/2017 10:00**	NM	3.79	NM	NM	0.06	1.270	NM	NM

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-23R	**05/04/2017 10:01**	NM	10.85	NM	NM	0.10	1.923	NM	NM
MW-23R	**07/12/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**07/12/2017 09:34**	0.64	3.79	186.0	5.95	0.32	5.855	16.74	8.2
MW-23R	**07/12/2017 13:28**	2.12	8.11	175.0	7.94	0.25	4.623	16.22	23.9
MW-23R	**10/05/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**10/05/2017 10:30**	2.47	4.07	107.0	5.66	0.06	1.173	18.67	16.9
MW-23R	**10/05/2017 13:15**	3.04	9.52	32.0	7.02	0.10	1.854	17.68	20.0
MW-23R	**01/11/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**01/11/2018 09:58**	2.93	4.18	162.0	5.81	0.06	1.240	11.85	18.9
MW-23R	**01/11/2018 11:01**	5.05	9.86	214.0	7.03	0.08	1.532	12.33	60.5
MW-23R	**04/05/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**04/05/2018 11:53**	4.47	3.24	198.0	5.19	0.10	1.905	9.72	9.3
MW-23R	**04/05/2018 13:22**	5.99	7.92	219.0	7.06	0.08	1.627	10.45	10.0
MW-23R	**08/07/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**08/07/2018 10:09**	2.90	7.97	166.0	5.84	0.07	1.359	18.14	7.4
MW-23R	**08/07/2018 10:36**	1.83	3.16	218.0	5.32	0.08	1.641	20.24	20.4
MW-23R	**04/15/2019 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**04/15/2019 10:50**	12.16	8.00	268.0	5.09	0.40	0.393	14.91	5.9
MW-23R	**07/12/2019 12:50**	1.82	120.00	200.0	4.30	NM	0.825	17.44	9.9
MW-23R	**07/12/2019 14:06**	0.61	5.74	211.1	4.82	0.38	0.783	18.26	2.9
MW-23R	**07/12/2019 14:20**	0.65	5.85	201.0	4.88	0.39	0.785	18.21	3.0
MW-23R	**10/16/2019 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**10/16/2019 08:05**	2.03	3.81	122.5	5.21	NM	0.529	17.83	17.4
MW-23R	**10/16/2019 09:10**	1.84	11.03	113.6	5.42	0.27	0.558	17.56	20.4
MW-23R	**10/16/2019 09:20**	3.72	10.54	105.2	5.64	0.28	0.567	17.66	91.7
MW-23R	**01/13/2020 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-23R	**01/13/2020 12:10**	9.09	3.25	230.1	4.52	NM	0.601	11.03	31.3
MW-23R	**01/13/2020 13:18**	2.24	10.02	316.3	4.55	0.28	0.581	12.34	22.1
MW-23R	**01/13/2020 13:30**	3.82	9.89	299.8	4.61	0.28	0.569	12.23	57.6
MW-23R	**04/14/2020 12:50**	6.91	10.18	259.9	4.82	0.30	0.619	11.80	37.0
MW-300	**05/05/2010 07:58**	2.61	6.01	356.0	5.35	0.20	3.130	NM	558.0
MW-300	**05/05/2010 08:00**	0.93	6.01	344.0	5.37	0.20	3.100	NM	507.0
MW-300	**05/05/2010 08:02**	0.54	6.05	327.0	0.40	0.20	3.090	NM	449.0
MW-300	**05/05/2010 08:04**	0.32	6.05	312.0	5.42	0.20	3.090	NM	334.0
MW-300	**05/05/2010 08:06**	0.15	6.09	297.0	5.43	0.20	3.090	NM	374.0
MW-300	**05/05/2010 08:08**	0.06	6.09	274.0	5.44	0.20	3.080	NM	337.0
MW-300	**05/05/2010 08:10**	0.05	6.15	263.0	5.44	0.20	3.080	NM	265.0
MW-300	**05/05/2010 08:12**	0.03	6.15	247.0	5.45	0.20	3.080	NM	263.0
MW-300	**05/05/2010 08:14**	0.03	6.20	228.0	5.44	0.20	3.080	NM	246.0
MW-300	**05/05/2010 08:16**	0.05	6.20	216.0	5.44	0.20	0.070	NM	254.0
MW-300	**05/05/2010 08:18**	0.03	6.25	209.0	5.45	0.20	3.070	NM	259.0
MW-300	**05/05/2010 08:20**	0.03	6.25	199.0	5.45	0.20	3.070	NM	247.0
MW-300	**05/05/2010 08:22**	0.03	6.31	204.0	5.45	0.20	3.070	NM	251.0
MW-300	**05/05/2010 09:24**	0.39	9.34	-36.0	5.82	0.20	3.220	NM	149.0
MW-300	**05/05/2010 11:46**	0.49	11.71	95.0	5.58	0.20	3.130	NM	174.0
MW-300	**12/18/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**12/18/2015 09:50**	1.16	8.30	10.0	5.52	0.40	7.171	18.58	5.4
MW-300	**12/18/2015 12:14**	2.95	12.88	2.0	5.89	0.11	2.054	19.01	22.3
MW-300	**01/19/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**01/19/2016 10:05**	0.61	7.85	20.0	5.17	0.16	3.026	15.95	3.8
MW-300	**01/19/2016 11:14**	4.32	11.24	0.0	5.27	0.34	6.218	16.23	9.3
MW-300	**04/20/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**04/20/2016 10:01**	2.54	8.14	100.0	5.18	0.16	3.060	14.19	10.2
MW-300	**04/20/2016 11:39**	2.13	12.40	38.0	5.50	0.29	5.358	15.00	42.2
MW-300	**06/30/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**06/30/2016 09:57**	3.93	8.22	122.0	5.16	0.15	2.932	18.40	6.1
MW-300	**06/30/2016 10:02**	0.94	12.40	-70.0	5.24	0.58	10.150	17.73	9.4
MW-300	**10/07/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**10/07/2016 08:59**	0.77	8.55	112.0	5.03	0.15	2.803	22.53	7.5
MW-300	**10/07/2016 10:01**	1.36	12.54	-23.0	7.26	0.15	2.891	21.46	24.7
MW-300	**01/10/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**01/10/2017 11:21**	0.47	8.08	8.0	5.24	0.54	9.615	16.77	13.8
MW-300	**01/10/2017 13:22**	1.37	11.00	25.0	5.54	2.56	39.880	16.54	17.7
MW-300	**04/07/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**04/07/2017 10:42**	1.51	7.66	55.0	5.70	0.27	4.973	12.96	4.9
MW-300	**04/07/2017 14:10**	3.74	12.79	70.0	5.96	0.21	3.873	13.30	19.7
MW-300	**07/07/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**07/07/2017 12:38**	0.02	7.92	37.0	5.47	2.26	35.590	17.61	0.9
MW-300	**07/07/2017 15:10**	0.19	7.76	-17.0	5.86	0.71	12.320	20.63	3.0
MW-300	**07/07/2017 15:42**	1.46	10.82	16.0	5.91	1.96	20.490	17.79	14.1
MW-300	**10/06/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-300	**10/06/2017 09:13**	0.55	8.12	182.0	4.79	0.76	13.070	21.70	12.9
MW-300	**10/06/2017 09:21**	1.20	8.26	132.0	5.24	0.84	14.340	21.07	4.2
MW-300	**10/06/2017 09:51**	2.55	11.29	58.0	6.38	0.64	11.190	21.18	5.3
MW-300	**01/11/2018 08:55**	5.31	7.73	250.0	7.46	0.16	3.079	12.07	2.3
MW-300	**01/11/2018 08:57**	2.88	NM	185.0	6.84	0.15	2.949	14.85	5.6
MW-300	**01/11/2018 08:59**	0.93	NM	137.0	6.51	0.16	3.003	14.20	2.3
MW-300	**01/11/2018 09:02**	0.74	NM	115.0	6.27	0.16	3.001	14.22	2.4
MW-300	**01/11/2018 09:04**	0.60	NM	109.0	6.08	0.16	3.010	14.20	2.2
MW-300	**01/11/2018 09:06**	0.49	NM	110.0	5.93	0.16	3.007	14.39	3.0
MW-300	**01/11/2018 09:09**	0.39	NM	114.0	5.80	0.16	3.018	14.34	2.3
MW-300	**01/11/2018 09:11**	0.34	NM	118.0	5.70	0.16	3.015	14.38	2.5
MW-300	**01/11/2018 09:13**	0.30	NM	123.0	5.62	0.16	3.015	14.47	2.6
MW-300	**01/11/2018 09:16**	0.31	NM	126.0	5.55	0.16	3.018	14.52	2.5
MW-300	**01/11/2018 09:18**	0.27	NM	129.0	5.50	0.16	3.021	14.40	4.7
MW-300	**01/11/2018 09:20**	0.25	NM	131.0	5.45	0.16	3.018	14.47	5.0
MW-300	**01/11/2018 09:23**	0.25	NM	133.0	5.42	0.16	3.022	14.33	3.7
MW-300	**01/11/2018 09:25**	0.23	NM	135.0	5.39	0.16	3.020	14.32	3.3
MW-300	**01/11/2018 09:27**	0.24	NM	136.0	5.37	0.16	3.021	14.14	2.9
MW-300	**01/11/2018 09:30**	0.18	NM	137.0	5.36	0.16	3.032	13.99	2.4
MW-300	**01/11/2018 09:32**	0.17	NM	138.0	5.35	0.16	3.053	13.76	2.3
MW-300	**01/11/2018 09:34**	0.16	NM	139.0	5.34	0.16	3.060	13.53	2.3
MW-300	**01/11/2018 09:37**	0.16	8.24	140.0	5.34	0.16	3.062	13.30	2.2
MW-300	**01/12/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**01/12/2018 09:37**	0.16	8.24	140.0	5.34	0.16	3.073	13.16	2.2
MW-300	**01/12/2018 09:41**	1.09	8.29	171.0	5.46	0.18	3.396	16.51	4.1
MW-300	**01/12/2018 10:13**	2.43	11.88	178.0	6.81	0.16	3.036	16.19	4.5
MW-300	**04/05/2018 08:49**	5.94	6.98	87.0	7.15	0.14	2.740	10.75	2.0
MW-300	**04/05/2018 08:51**	2.44	NM	119.0	6.49	0.14	2.768	11.31	2.2
MW-300	**04/05/2018 08:53**	2.01	NM	127.0	6.16	0.15	2.823	10.97	2.2
MW-300	**04/05/2018 08:55**	1.83	NM	132.0	5.95	0.15	2.831	10.99	2.2
MW-300	**04/05/2018 08:57**	1.84	NM	135.0	5.80	0.15	2.824	10.89	1.9
MW-300	**04/05/2018 08:59**	1.87	NM	136.0	5.68	0.15	2.790	10.76	2.2
MW-300	**04/05/2018 09:02**	1.88	NM	138.0	5.59	0.14	2.786	10.69	2.1
MW-300	**04/05/2018 09:04**	1.82	NM	138.0	5.52	0.15	2.826	10.72	2.3
MW-300	**04/05/2018 09:06**	1.74	NM	139.0	5.45	0.14	2.780	10.62	2.0
MW-300	**04/05/2018 09:08**	1.72	NM	138.0	5.41	0.15	2.819	10.66	1.8
MW-300	**04/05/2018 09:10**	1.75	NM	139.0	5.37	0.15	2.845	10.74	2.1
MW-300	**04/05/2018 09:12**	1.74	NM	139.0	5.34	0.15	2.822	10.67	1.8
MW-300	**04/05/2018 09:15**	1.68	NM	139.0	5.31	0.14	2.767	10.61	2.1
MW-300	**04/05/2018 09:17**	1.66	NM	139.0	5.28	0.14	2.762	10.93	2.1
MW-300	**04/05/2018 09:19**	1.68	7.33	140.0	5.27	0.14	2.766	10.87	2.0
MW-300	**04/06/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**04/06/2018 09:14**	1.68	7.69	150.0	5.31	0.15	2.910	12.99	4.1
MW-300	**04/06/2018 09:19**	1.68	7.33	140.0	5.27	0.14	2.775	10.75	2.0
MW-300	**04/06/2018 10:09**	2.22	10.68	76.0	5.65	0.15	2.814	12.70	5.4
MW-300	**07/02/2018 11:09**	1.13	7.28	-10.0	5.76	0.15	2.832	28.86	6.1
MW-300	**07/02/2018 11:11**	0.67	NM	18.0	5.33	0.15	2.763	23.79	7.3
MW-300	**07/02/2018 11:14**	0.64	NM	24.0	5.21	0.15	2.781	23.85	8.8
MW-300	**07/02/2018 11:16**	0.68	NM	26.0	5.18	0.15	2.778	24.74	11.9
MW-300	**07/02/2018 11:19**	0.75	NM	24.0	5.17	0.15	2.776	25.39	12.0
MW-300	**07/02/2018 11:21**	0.75	NM	21.0	5.17	0.15	2.755	25.61	9.2
MW-300	**07/02/2018 11:23**	0.68	NM	11.0	5.16	0.14	2.744	22.00	14.7
MW-300	**07/02/2018 11:26**	0.63	NM	3.0	5.15	0.14	2.744	21.76	18.9
MW-300	**07/02/2018 11:28**	0.63	NM	-4.0	5.15	0.14	2.745	22.01	25.5
MW-300	**07/02/2018 11:30**	0.61	NM	-12.0	5.16	0.14	2.739	22.30	28.3
MW-300	**07/02/2018 11:33**	0.59	NM	-21.0	5.18	0.14	2.734	22.38	33.3
MW-300	**07/02/2018 11:35**	0.59	NM	-30.0	5.20	0.14	2.727	22.42	33.9
MW-300	**07/02/2018 11:37**	0.58	NM	-39.0	5.25	0.14	2.712	22.27	31.5
MW-300	**07/02/2018 11:40**	0.57	NM	-47.0	5.29	0.14	2.700	22.34	36.5
MW-300	**07/02/2018 11:42**	0.57	NM	-57.0	5.36	0.14	2.678	22.24	22.5
MW-300	**07/02/2018 11:44**	0.56	NM	-65.0	5.42	0.14	2.660	22.29	14.9
MW-300	**07/02/2018 11:47**	0.56	NM	-69.0	5.46	0.14	2.657	22.65	20.7
MW-300	**07/02/2018 11:49**	0.56	NM	-73.0	5.49	0.14	2.647	22.41	15.1
MW-300	**07/02/2018 11:51**	0.56	NM	-75.0	5.50	0.14	2.652	22.68	13.9
MW-300	**07/02/2018 11:54**	0.57	NM	-77.0	5.50	0.14	2.646	22.47	17.0
MW-300	**07/02/2018 11:56**	0.55	NM	-79.0	5.51	0.14	2.639	23.17	13.4
MW-300	**07/02/2018 11:58**	0.54	8.03	-80.0	5.52	0.14	2.648	24.07	12.8
MW-300	**07/03/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	**07/03/2018 11:17**	1.81	8.62	56.0	5.05	0.15	2.861	18.19	3.7
MW-300	**07/03/2018 11:58**	0.54	8.03	-80.0	5.52	0.14	2.638	24.25	12.8
MW-300	**07/03/2018 12:38**	2.78	11.78	-73.0	6.04	0.14	2.651	18.46	7.8

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-300	11/13/2018 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	11/13/2018 13:40	1.20	7.82	112.4	5.49	1.07	2.087	18.55	0.0
MW-300	11/13/2018 14:10	0.76	10.14	71.6	5.57	1.19	2.299	19.15	3.1
MW-300	11/13/2018 14:20	0.76	10.74	84.5	5.49	1.22	2.354	18.78	3.4
MW-300	01/24/2019 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	01/24/2019 13:50	1.33	7.92	218.5	5.19	1.31	2.515	14.59	19.4
MW-300	01/24/2019 14:50	0.41	10.63	94.6	5.49	1.29	2.478	15.04	3.4
MW-300	01/24/2019 15:00	0.46	10.93	90.7	5.49	1.29	2.480	14.44	31.6
MW-300	04/17/2019 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	04/17/2019 12:35	3.22	NM	151.9	5.05	NM	2.607	14.77	6.2
MW-300	04/17/2019 13:37	6.07	8.52	151.7	5.44	1.38	2.669	14.74	0.7
MW-300	07/17/2019 10:05	2.11	7.11	136.5	5.46	NM	2.767	21.74	7.0
MW-300	07/17/2019 10:10	1.90	7.23	137.6	5.41	NM	2.788	23.22	3.3
MW-300	07/17/2019 10:15	1.88	7.26	139.2	5.34	NM	2.800	24.30	3.6
MW-300	07/17/2019 10:20	1.54	7.27	146.3	5.33	NM	2.804	21.26	6.4
MW-300	07/17/2019 10:25	1.33	7.29	147.3	5.40	NM	2.768	20.81	5.2
MW-300	07/17/2019 10:30	1.28	7.31	145.8	5.36	NM	2.755	20.80	4.6
MW-300	07/17/2019 10:35	1.25	7.33	143.5	5.34	NM	2.737	20.94	5.0
MW-300	07/17/2019 10:40	1.25	7.36	145.2	5.31	NM	2.734	21.00	5.2
MW-300	07/17/2019 10:45	1.27	7.37	144.8	5.31	NM	2.725	21.15	4.8
MW-300	07/17/2019 10:50	1.33	7.39	144.8	5.31	NM	2.714	21.18	4.2
MW-300	07/17/2019 13:40	1.33	NM	144.8	5.31	NM	2.714	21.18	4.2
MW-300	07/17/2019 14:32	2.14	9.98	74.6	5.73	1.22	2.375	19.85	3.4
MW-300	07/17/2019 14:45	3.75	9.94	118.3	5.49	1.44	2.766	19.97	2.8
MW-300	10/15/2019 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	10/15/2019 09:10	1.86	7.80	143.3	4.87	NM	1.427	19.06	6.8
MW-300	10/15/2019 09:15	0.83	7.85	168.7	4.86	NM	1.459	19.79	5.6
MW-300	10/15/2019 09:20	0.49	7.93	186.4	4.85	NM	1.462	20.16	5.4
MW-300	10/15/2019 09:25	0.43	8.04	197.0	4.85	NM	1.460	20.48	5.6
MW-300	10/15/2019 09:30	0.33	8.15	201.6	4.86	NM	1.459	20.57	4.6
MW-300	10/15/2019 09:35	0.30	8.27	204.8	4.85	NM	1.460	20.68	3.4
MW-300	10/15/2019 09:40	0.33	8.37	206.7	4.83	NM	1.458	20.62	3.7
MW-300	10/15/2019 09:45	0.31	8.48	207.7	4.83	NM	1.457	20.78	3.7
MW-300	10/15/2019 09:50	0.30	8.57	207.8	4.87	NM	1.454	20.82	3.8
MW-300	10/15/2019 11:15	0.84	12.03	126.3	4.86	0.73	1.450	20.85	0.6
MW-300	10/15/2019 11:40	0.96	12.21	153.0	4.93	0.73	1.447	19.92	46.7
MW-300	01/21/2020 12:20	4.97	7.45	42.4	4.84	NM	2.070	11.93	5.3
MW-300	01/21/2020 12:25	4.51	7.53	40.7	4.84	NM	2.078	12.43	4.8
MW-300	01/21/2020 12:30	4.22	7.64	41.5	4.82	NM	2.082	12.25	4.6
MW-300	01/21/2020 12:35	4.07	7.74	42.4	4.82	NM	2.083	11.90	4.4
MW-300	01/21/2020 12:40	3.94	7.85	43.7	4.82	NM	2.071	12.13	4.4
MW-300	01/21/2020 12:45	3.91	7.91	44.8	4.84	NM	2.077	11.85	4.3
MW-300	01/21/2020 12:50	3.84	7.97	46.5	4.84	NM	2.065	11.82	4.3
MW-300	01/22/2020 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-300	01/22/2020 09:45	5.03	6.89	174.3	5.75	0.95	1.924	13.38	10.2
MW-300	01/22/2020 10:05	3.93	8.40	125.3	5.14	0.95	1.862	12.40	13.5
MW-300	04/09/2020 12:05	3.33	NM	486.7	4.22	NM	1.617	14.50	1.3
MW-300	04/10/2020 08:30	5.34	7.61	122.4	5.33	0.96	1.874	13.53	2.3
MW-301	11/02/2009 11:56	1.36	2.95	386.0	2.84	0.10	2.260	16.20	14.6
MW-301	11/02/2009 11:58	1.67	2.95	387.0	2.81	0.10	2.240	16.20	13.6
MW-301	11/02/2009 12:00	1.60	2.97	389.0	2.80	0.10	2.240	16.20	13.2
MW-301	11/02/2009 12:02	1.36	2.97	391.0	2.78	0.10	2.250	16.20	12.0
MW-301	11/02/2009 12:04	1.15	3.01	392.0	2.76	0.10	2.250	16.20	12.1
MW-301	11/02/2009 12:06	1.17	3.01	393.0	2.75	0.10	2.260	16.20	12.5
MW-301	11/02/2009 12:08	1.09	3.03	393.0	2.75	0.10	2.270	16.20	12.5
MW-301	11/02/2009 12:10	1.06	3.03	394.0	2.74	0.10	2.270	16.20	12.7
MW-301	11/02/2009 12:12	0.99	3.07	394.0	2.73	0.10	2.270	16.20	12.9
MW-301	11/02/2009 12:14	0.97	3.07	394.0	2.72	0.10	2.170	16.30	12.3
MW-301	11/02/2009 12:16	0.10	3.10	395.0	2.72	0.10	2.270	16.30	13.4
MW-301	11/02/2009 12:18	0.90	3.10	395.0	2.72	0.10	2.270	16.30	13.8
MW-301	11/02/2009 12:20	0.90	3.10	395.0	2.72	0.10	2.270	16.30	13.8
MW-301	05/06/2010 07:48	1.31	2.52	401.0	4.01	0.10	1.720	NM	148.0
MW-301	05/06/2010 07:50	0.78	2.52	381.0	4.03	0.10	1.700	NM	127.0
MW-301	05/06/2010 07:52	0.65	2.53	364.0	4.06	0.10	1.700	NM	134.0
MW-301	05/06/2010 07:54	0.56	2.53	350.0	4.08	0.10	1.690	NM	104.0
MW-301	05/06/2010 07:56	0.50	2.59	341.0	4.10	0.10	1.690	NM	98.2
MW-301	05/06/2010 07:58	0.35	2.59	341.0	4.11	0.10	1.690	NM	88.9
MW-301	05/06/2010 08:00	0.35	2.59	327.0	4.11	0.10	1.690	NM	88.9
MW-301	05/06/2010 08:02	0.19	2.63	312.0	4.13	0.10	1.700	NM	89.6
MW-301	05/06/2010 08:04	0.17	2.69	309.0	4.14	0.10	1.700	NM	85.1
MW-301	05/06/2010 08:06	0.16	2.69	301.0	4.15	0.10	1.700	NM	90.2

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-301	**05/06/2010 08:08**	0.19	2.73	296.0	4.16	0.10	1.700	NM	88.7
MW-301	**05/06/2010 08:10**	0.20	2.73	295.0	4.17	0.10	1.700	NM	79.7
MW-301	**05/06/2010 08:12**	0.24	2.76	286.0	4.17	0.10	1.700	NM	81.3
MW-301	**05/06/2010 08:44**	0.64	8.04	252.0	4.34	0.10	1.740	NM	315.0
MW-301	**05/07/2010 08:25**	1.22	3.28	327.0	4.29	0.10	1.950	NM	28.0
MW-301	**10/11/2010 07:58**	0.77	3.16	130.0	4.36	0.10	1.600	18.90	32.3
MW-301	**10/11/2010 08:00**	0.53	3.16	129.0	4.36	0.10	1.600	18.80	28.2
MW-301	**10/11/2010 08:02**	0.32	3.21	131.0	4.34	0.10	1.600	18.90	33.1
MW-301	**10/11/2010 08:04**	0.02	3.21	132.0	4.33	0.10	1.600	19.00	29.3
MW-301	**10/11/2010 08:06**	0.00	3.27	132.0	4.32	0.10	1.600	18.80	33.7
MW-301	**10/11/2010 08:08**	0.00	3.27	134.0	4.33	0.10	1.600	18.80	41.1
MW-301	**10/11/2010 08:10**	0.00	3.32	135.0	4.33	0.10	1.600	18.80	40.6
MW-301	**10/11/2010 08:12**	0.00	3.32	135.0	4.34	0.10	1.600	18.80	36.1
MW-301	**10/11/2010 08:14**	0.00	3.37	133.0	4.37	0.10	1.600	18.80	45.8
MW-301	**10/11/2010 08:16**	0.00	3.37	131.0	4.44	0.10	1.600	19.00	49.3
MW-301	**10/11/2010 08:18**	0.00	3.41	131.0	4.41	0.10	1.600	18.90	46.8
MW-301	**10/11/2010 08:20**	0.00	3.41	133.0	4.42	0.10	1.600	18.90	45.7
MW-301	**10/11/2010 08:22**	0.00	3.46	131.0	4.41	0.10	1.600	19.00	47.1
MW-301	**10/11/2010 09:05**	1.21	9.70	90.0	4.71	0.10	2.000	18.90	64.1
MW-301	**10/12/2010 10:40**	2.21	6.30	162.0	4.62	0.10	1.850	19.20	40.3
MW-301	**05/03/2011 14:29**	2.27	2.24	138.0	4.84	0.07	1.067	15.88	42.3
MW-301	**05/03/2011 14:30**	2.00	NM	148.0	4.79	0.06	1.027	14.63	43.4
MW-301	**05/03/2011 14:32**	2.27	NM	154.0	4.80	0.06	0.996	14.18	39.6
MW-301	**05/03/2011 14:34**	3.18	NM	158.0	4.81	0.06	0.984	14.14	35.3
MW-301	**05/03/2011 14:36**	3.48	NM	161.0	4.82	0.06	0.972	13.99	24.6
MW-301	**05/03/2011 14:37**	3.35	NM	163.0	4.83	0.06	0.967	14.11	21.3
MW-301	**05/03/2011 14:39**	2.91	NM	165.0	4.84	0.06	0.959	14.06	20.2
MW-301	**05/03/2011 14:41**	2.67	NM	166.0	4.85	0.06	0.953	14.11	21.4
MW-301	**05/03/2011 14:42**	2.67	2.50	166.0	4.85	0.06	1.203	14.11	21.4
MW-301	**05/03/2011 14:43**	5.49	2.50	160.0	4.89	0.00	0.001	14.99	84.5
MW-301	**05/03/2011 15:38**	3.50	10.09	105.0	5.22	0.11	2.047	11.88	189.4
MW-301	**05/04/2011 09:26**	4.53	2.81	236.0	4.21	0.16	2.230	11.10	17.7
MW-301	**08/11/2011 15:48**	0.70	NM	124.0	4.58	0.10	1.430	23.40	26.5
MW-301	**08/11/2011 15:50**	0.39	NM	122.0	4.58	0.10	1.430	23.30	34.8
MW-301	**08/11/2011 15:52**	0.26	NM	122.0	4.58	0.10	1.430	23.20	33.7
MW-301	**08/11/2011 15:54**	0.22	NM	122.0	4.57	0.10	1.430	23.20	35.6
MW-301	**08/11/2011 15:56**	0.21	NM	123.0	4.56	0.10	1.430	23.20	37.6
MW-301	**08/11/2011 15:58**	0.21	4.80	124.0	4.55	0.10	1.420	23.30	38.1
MW-301	**08/11/2011 16:33**	0.68	10.91	100.0	4.91	0.20	4.080	18.70	123.0
MW-301	**08/12/2011 13:30**	3.05	4.27	322.0	3.71	0.10	1.950	21.00	35.7
MW-301	**11/07/2011 14:10**	5.85	2.66	88.0	4.59	0.07	1.142	17.30	25.0
MW-301	**11/07/2011 14:12**	4.80	NM	175.0	4.31	0.07	1.114	16.50	15.3
MW-301	**11/07/2011 14:14**	3.99	NM	219.0	4.20	0.07	1.115	16.50	16.0
MW-301	**11/07/2011 14:15**	3.86	NM	230.0	4.18	0.07	1.115	16.42	14.9
MW-301	**11/07/2011 14:17**	3.81	NM	236.0	4.17	0.07	1.113	16.37	15.0
MW-301	**11/07/2011 14:19**	3.77	NM	240.0	4.16	0.07	1.113	16.38	16.0
MW-301	**11/07/2011 14:21**	3.75	NM	243.0	4.16	0.07	1.111	16.38	14.3
MW-301	**11/07/2011 14:22**	3.74	2.92	246.0	4.16	0.07	1.113	16.41	13.8
MW-301	**11/07/2011 14:23**	3.74	2.92	246.0	4.16	0.07	1.331	16.41	13.8
MW-301	**11/07/2011 15:07**	4.26	8.76	144.0	4.68	0.08	1.544	17.53	35.3
MW-301	**11/08/2011 12:25**	2.57	3.25	243.0	4.05	0.09	1.761	16.21	15.6
MW-301	**02/08/2012 15:33**	-0.16	3.06	123.0	4.69	0.07	1.357	7.49	44.8
MW-301	**02/08/2012 15:35**	-0.16	NM	155.0	4.59	0.07	1.351	8.48	15.9
MW-301	**02/08/2012 15:37**	-0.16	NM	180.0	4.56	0.07	1.362	8.68	5.0
MW-301	**02/08/2012 15:39**	-0.16	NM	199.0	4.52	0.07	1.357	8.74	7.9
MW-301	**02/08/2012 15:41**	-0.15	NM	215.0	4.49	0.07	1.352	8.74	11.0
MW-301	**02/08/2012 15:43**	-0.15	NM	227.0	4.46	0.07	1.355	8.76	8.8
MW-301	**02/08/2012 15:45**	-0.15	NM	235.0	4.45	0.07	1.356	8.72	6.9
MW-301	**02/08/2012 15:47**	-0.15	NM	241.0	4.44	0.07	1.351	8.73	8.7
MW-301	**02/08/2012 15:49**	-0.15	NM	246.0	4.43	0.07	1.352	8.81	5.9
MW-301	**02/08/2012 15:51**	-0.15	NM	250.0	4.43	0.07	1.352	8.81	6.1
MW-301	**02/08/2012 15:53**	-0.15	NM	253.0	4.42	0.07	1.353	8.86	7.1
MW-301	**02/08/2012 15:55**	-0.15	NM	254.0	4.41	0.07	1.355	8.78	5.4
MW-301	**02/08/2012 15:57**	-0.15	NM	257.0	4.41	0.07	1.354	8.74	6.3
MW-301	**02/08/2012 15:59**	-0.15	NM	259.0	4.40	0.07	1.349	8.83	6.2
MW-301	**02/08/2012 16:01**	-0.15	NM	261.0	4.40	0.07	1.352	9.04	8.4
MW-301	**02/08/2012 16:03**	-0.15	NM	262.0	4.40	0.07	1.355	9.00	7.4
MW-301	**02/08/2012 16:05**	-0.15	NM	262.0	4.40	0.07	1.350	9.01	5.7
MW-301	**02/08/2012 16:07**	-0.15	NM	263.0	4.39	0.07	1.348	9.01	7.9
MW-301	**02/08/2012 16:09**	-0.15	NM	265.0	4.39	0.07	1.349	9.07	6.6
MW-301	**02/08/2012 16:11**	-0.15	NM	265.0	4.40	0.07	1.353	9.08	12.7

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-301	02/08/2012 16:13	-0.15	NM	266.0	4.40	0.07	1.353	8.96	6.8
MW-301	02/08/2012 16:15	-0.14	NM	265.0	4.41	0.07	1.351	8.91	6.4
MW-301	02/08/2012 16:16	-0.14	3.64	265.0	4.41	0.07	1.350	8.71	6.3
MW-301	02/08/2012 16:54	-0.17	11.64	177.0	5.23	0.15	2.947	11.18	121.0
MW-301	02/09/2012 12:50	6.13	3.65	344.0	3.68	0.09	1.861	9.49	11.3
MW-301	04/18/2012 10:25	1.83	3.36	153.0	5.04	0.07	1.305	15.82	6.4
MW-301	04/18/2012 10:27	0.99	NM	174.0	4.88	0.07	1.330	12.86	4.7
MW-301	04/18/2012 10:29	0.64	NM	182.0	4.85	0.07	1.335	12.52	5.0
MW-301	04/18/2012 10:31	0.52	NM	187.0	4.82	0.07	1.330	12.22	4.2
MW-301	04/18/2012 10:33	0.47	NM	190.0	4.80	0.07	1.326	12.41	4.1
MW-301	04/18/2012 10:35	0.40	NM	193.0	4.80	0.07	1.325	12.60	4.5
MW-301	04/18/2012 10:37	0.37	NM	194.0	4.79	0.07	1.326	12.59	4.5
MW-301	04/18/2012 10:39	0.37	3.74	196.0	4.80	0.07	1.324	12.59	4.7
MW-301	04/18/2012 10:40	0.37	3.74	196.0	4.80	0.07	1.324	12.59	4.7
MW-301	04/18/2012 11:38	1.25	4.50	201.0	4.74	0.07	1.328	12.34	24.7
MW-301	04/19/2012 09:38	0.72	3.81	303.0	4.46	0.07	1.324	11.65	12.9
MW-301	07/19/2012 08:49	0.30	5.12	130.0	4.89	0.12	2.373	19.71	6.2
MW-301	07/19/2012 09:24	1.95	9.57	118.0	5.06	0.14	2.604	17.08	113.4
MW-301	07/20/2012 08:45	5.65	4.03	363.0	3.21	0.09	1.690	20.67	28.0
MW-301	10/17/2012 12:58	5.20	3.50	68.0	5.17	0.10	1.350	19.40	23.8
MW-301	10/17/2012 13:00	4.99	NM	78.0	5.00	0.10	1.330	19.20	17.4
MW-301	10/17/2012 13:02	4.79	NM	84.0	4.95	0.10	1.310	19.20	15.4
MW-301	10/17/2012 13:04	4.64	NM	89.0	4.88	0.10	1.300	19.10	16.7
MW-301	10/17/2012 13:06	4.50	NM	93.0	4.86	0.10	1.290	19.10	15.3
MW-301	10/17/2012 13:08	4.40	NM	97.0	4.85	0.10	1.290	19.20	17.9
MW-301	10/17/2012 13:10	4.33	NM	101.0	4.84	0.10	1.280	19.10	30.9
MW-301	10/17/2012 13:12	4.30	NM	105.0	4.82	0.10	1.280	19.00	31.6
MW-301	10/17/2012 13:14	4.23	NM	107.0	4.81	0.10	1.280	19.00	33.2
MW-301	10/17/2012 13:16	4.18	NM	110.0	4.80	0.10	1.270	19.00	35.4
MW-301	10/17/2012 13:18	4.13	NM	111.0	4.80	0.10	1.270	19.10	36.4
MW-301	10/17/2012 13:20	4.07	NM	112.0	4.80	0.10	1.270	19.10	39.9
MW-301	10/17/2012 13:22	4.05	NM	113.0	4.81	0.10	1.290	19.10	38.8
MW-301	10/17/2012 13:24	4.00	3.81	114.0	4.80	0.10	1.270	19.10	41.3
MW-301	10/17/2012 14:14	5.79	8.80	115.0	4.90	0.10	1.290	19.31	19.2
MW-301	10/18/2012 11:13	4.85	4.01	238.0	4.08	0.10	1.470	18.80	20.2
MW-301	02/06/2013 13:20	4.80	3.13	30.0	4.31	0.10	1.989	8.66	127.4
MW-301	02/06/2013 13:22	1.87	NM	183.0	3.81	0.10	1.921	8.79	368.6
MW-301	02/06/2013 13:24	1.79	NM	217.0	3.79	0.09	1.859	8.97	196.5
MW-301	02/06/2013 13:26	1.05	NM	226.0	3.80	0.09	1.839	9.02	288.1
MW-301	02/06/2013 13:28	0.78	NM	232.0	3.80	0.09	1.856	8.88	113.8
MW-301	02/06/2013 13:30	0.69	NM	237.0	3.81	0.09	1.863	8.83	317.7
MW-301	02/06/2013 13:32	0.58	NM	240.0	3.81	0.09	1.849	8.75	139.1
MW-301	02/06/2013 13:34	0.52	NM	242.0	3.82	0.09	1.847	8.77	302.2
MW-301	02/06/2013 13:36	0.49	NM	243.0	3.83	0.09	1.853	8.74	60.1
MW-301	02/06/2013 13:38	0.44	NM	244.0	3.84	0.09	1.834	8.79	330.2
MW-301	02/06/2013 13:41	0.40	NM	244.0	3.84	0.09	1.831	8.78	214.1
MW-301	02/06/2013 13:43	0.43	NM	248.0	3.84	0.09	1.831	8.68	66.5
MW-301	02/06/2013 13:45	0.41	NM	250.0	3.85	0.09	1.829	8.79	30.3
MW-301	02/06/2013 13:47	0.41	NM	252.0	3.85	0.09	1.844	8.68	60.2
MW-301	02/06/2013 13:49	0.42	NM	250.0	3.86	0.09	1.837	8.70	62.9
MW-301	02/06/2013 13:51	0.40	NM	252.0	3.86	0.09	1.839	8.75	56.7
MW-301	02/06/2013 13:53	0.37	NM	252.0	3.87	0.09	1.852	8.73	55.3
MW-301	02/06/2013 13:55	0.41	NM	252.0	3.87	0.09	1.837	8.64	22.6
MW-301	02/06/2013 13:57	0.40	NM	253.0	3.88	0.09	1.833	8.78	39.8
MW-301	02/06/2013 13:59	0.39	NM	253.0	3.88	0.09	1.835	8.69	40.8
MW-301	02/06/2013 14:01	0.40	NM	253.0	3.89	0.09	1.828	8.56	12.0
MW-301	02/06/2013 14:03	0.38	NM	253.0	3.89	0.09	1.830	8.57	11.5
MW-301	02/06/2013 14:05	0.37	NM	253.0	3.89	0.09	1.828	8.75	32.2
MW-301	02/06/2013 14:07	0.35	5.08	254.0	3.90	0.09	1.834	8.78	13.5
MW-301	02/06/2013 14:08	0.35	5.08	354.0	3.90	0.09	1.834	8.92	13.5
MW-301	02/06/2013 14:40	4.03	9.31	29.0	4.92	0.10	1.957	10.66	64.5
MW-301	02/07/2013 09:24	3.91	3.56	-43.0	4.10	0.12	2.334	9.65	17.3
MW-301	08/29/2013 13:46	0.94	4.04	-300.0	5.03	0.33	6.004	22.54	17.9
MW-301	08/29/2013 14:48	1.32	9.37	-217.0	5.11	0.26	4.854	18.37	57.1
MW-301	08/30/2013 10:52	3.13	4.28	339.0	3.73	0.14	2.742	19.08	20.5
MW-301	10/22/2013 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	10/22/2013 11:15	0.94	4.41	-306.0	4.31	0.11	2.217	18.34	10.2
MW-301	10/22/2013 11:45	1.37	8.55	-323.0	5.04	0.21	3.983	18.14	32.9
MW-301	10/23/2013 09:44	2.30	4.63	90.0	3.89	0.10	1.911	17.87	19.6
MW-301	03/20/2014 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	03/20/2014 11:35	1.10	3.52	225.0	4.14	0.06	1.196	10.86	5.5

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-301	**03/20/2014 12:06**	6.11	8.75	-65.0	7.04	0.07	1.360	9.17	364.5
MW-301	**03/21/2014 10:13**	3.52	2.80	49.0	4.58	0.08	1.577	8.29	7.8
MW-301	**05/08/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**05/08/2014 11:47**	1.18	2.90	-307.0	4.54	0.08	1.541	12.13	7.0
MW-301	**05/08/2014 12:29**	3.35	4.74	-147.0	5.25	0.44	7.920	11.91	12.0
MW-301	**05/09/2014 09:53**	1.05	3.13	-390.0	4.83	0.05	1.044	11.09	19.2
MW-301	**07/29/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**07/29/2014 10:36**	0.24	356.00	-751.0	5.39	0.04	0.748	19.67	15.9
MW-301	**07/29/2014 11:17**	0.52	9.73	-203.0	5.04	0.06	1.123	16.52	74.5
MW-301	**07/30/2014 11:14**	1.42	4.16	160.0	4.55	0.06	1.226	19.16	18.7
MW-301	**10/20/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**10/21/2014 08:41**	0.30	4.21	79.0	4.76	0.06	1.160	15.31	10.6
MW-301	**10/21/2014 09:23**	1.47	10.91	37.0	5.24	0.20	3.672	16.97	100.0
MW-301	**10/22/2014 00:00**	NM	4.38	NM	NM	NM	NM	NM	NM
MW-301	**03/25/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**03/25/2015 13:44**	2.12	282.00	240.0	4.06	0.05	0.978	8.36	2.5
MW-301	**03/25/2015 15:45**	4.74	9.82	146.0	4.86	0.05	1.091	7.89	13.2
MW-301	**03/26/2015 11:09**	8.41	3.02	216.0	4.16	0.07	1.369	7.46	6.1
MW-301	**05/21/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**05/21/2015 10:07**	1.07	3.89	132.0	4.73	0.15	2.849	11.42	8.8
MW-301	**05/21/2015 10:29**	11.12	5.26	83.0	5.06	0.10	1.982	12.69	13.5
MW-301	**09/25/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**09/25/2015 10:38**	4.96	5.13	270.0	4.48	0.06	1.193	19.66	14.9
MW-301	**09/25/2015 14:13**	9.32	10.82	50.0	6.09	0.15	2.857	21.57	1336.4
MW-301	**11/11/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**11/11/2015 09:21**	6.77	4.16	514.0	3.69	0.06	1.194	16.32	19.9
MW-301	**11/11/2015 10:05**	2.48	10.73	6.0	5.75	0.09	1676.000	16.62	30.4
MW-301	**02/26/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**02/26/2016 09:01**	4.35	2.86	132.0	4.29	0.08	1.508	9.34	8.5
MW-301	**02/26/2016 10:40**	1.18	10.37	45.0	4.74	0.04	0.874	10.60	80.7
MW-301	**04/22/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**04/22/2016 09:18**	3.05	3.87	104.0	3.52	0.22	4.081	11.02	14.9
MW-301	**04/22/2016 10:37**	2.71	11.15	3.0	5.79	0.50	8.895	12.72	48.7
MW-301	**07/12/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**07/12/2016 10:30**	2.41	4.20	0.4	3.45	0.07	1.332	17.71	35.4
MW-301	**07/12/2016 11:29**	6.14	10.71	-31.0	5.82	0.61	10.700	15.80	36.7
MW-301	**10/05/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**10/05/2016 09:17**	1.96	4.94	319.0	3.09	0.06	1.174	19.79	37.6
MW-301	**10/05/2016 11:11**	2.14	10.82	-71.0	7.51	0.29	5.382	18.41	49.1
MW-301	**01/06/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**01/06/2017 09:29**	3.30	3.32	168.0	3.37	0.09	1.708	11.47	23.7
MW-301	**01/06/2017 10:13**	3.83	10.57	77.0	6.04	0.06	1.247	12.52	75.2
MW-301	**04/14/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**04/14/2017 10:55**	NM	3.12	NM	NM	0.22	4.132	NM	NM
MW-301	**04/14/2017 11:35**	NM	3.24	NM	NM	0.08	1.635	NM	NM
MW-301	**04/14/2017 12:12**	NM	10.89	NM	NM	0.14	2.664	NM	NM
MW-301	**07/12/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**07/12/2017 11:31**	0.31	3.81	188.0	4.46	0.14	2.680	20.54	17.9
MW-301	**07/12/2017 11:35**	0.65	3.83	229.0	4.41	1.40	23.011	16.97	55.1
MW-301	**07/12/2017 12:06**	1.20	10.52	200.0	7.35	1.36	22.530	15.21	38.5
MW-301	**10/05/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	**10/05/2017 09:48**	2.94	4.32	216.0	4.23	0.06	1.190	19.10	50.0
MW-301	**10/05/2017 11:04**	0.36	4.30	214.0	4.28	0.52	10.280	19.11	14.7
MW-301	**10/05/2017 11:42**	2.77	10.89	62.0	6.83	0.09	1.819	17.86	12.8
MW-301	**01/10/2018 09:05**	3.46	3.62	-61.0	7.62	0.06	1.254	8.68	45.7
MW-301	**01/10/2018 09:07**	1.77	NM	-18.0	7.05	0.06	1.278	9.54	5.3
MW-301	**01/10/2018 09:09**	2.77	NM	37.0	6.56	0.07	1.388	9.48	3.7
MW-301	**01/10/2018 09:11**	0.86	NM	87.0	6.08	0.07	1.486	9.61	5.6
MW-301	**01/10/2018 09:14**	0.42	NM	124.0	5.68	0.08	1.559	9.54	3.8
MW-301	**01/10/2018 09:16**	0.23	NM	151.0	5.32	0.08	1.621	9.33	3.6
MW-301	**01/10/2018 09:18**	0.20	NM	172.0	4.97	0.08	1.647	9.62	4.7
MW-301	**01/10/2018 09:20**	0.09	NM	184.0	4.72	0.08	1.675	9.53	4.0
MW-301	**01/10/2018 09:23**	0.08	NM	194.0	4.49	0.09	1.709	9.46	4.1
MW-301	**01/10/2018 09:25**	0.04	NM	200.0	4.33	0.09	1.717	9.68	4.1
MW-301	**01/10/2018 09:27**	0.01	NM	205.0	4.20	0.09	1.731	9.66	4.1
MW-301	**01/10/2018 09:29**	-0.01	NM	208.0	4.10	0.09	1.753	9.52	4.0
MW-301	**01/10/2018 09:32**	-0.03	NM	211.0	4.03	0.09	1.769	9.45	3.8
MW-301	**01/10/2018 09:34**	-0.05	NM	214.0	3.97	0.09	1.782	9.44	3.7
MW-301	**01/10/2018 09:36**	-0.08	NM	216.0	3.93	0.09	1.794	9.42	3.8
MW-301	**01/10/2018 09:38**	-0.09	NM	217.0	3.90	0.09	1.805	9.36	3.7
MW-301	**01/10/2018 09:41**	-0.09	4.06	218.0	3.87	0.09	1.812	9.38	3.9

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-301	01/11/2018 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	01/11/2018 09:21	10.87	4.11	265.0	3.59	0.07	1.303	11.01	10.3
MW-301	01/11/2018 09:41	-0.09	4.06	218.0	3.87	0.09	1.819	9.24	3.9
MW-301	01/11/2018 10:21	4.12	11.24	-66.0	6.98	0.08	1.579	12.58	17.1
MW-301	04/04/2018 10:46	8.69	NM	221.0	7.39	0.05	1.095	11.33	33.5
MW-301	04/04/2018 10:48	3.09	NM	366.0	6.02	0.05	1.100	9.84	13.9
MW-301	04/04/2018 10:50	2.43	NM	407.0	5.20	0.05	1.086	10.10	52.1
MW-301	04/04/2018 10:52	2.32	NM	415.0	4.72	0.06	1.111	10.07	37.1
MW-301	04/04/2018 10:54	2.21	NM	418.0	4.35	0.05	1.077	10.06	17.0
MW-301	04/04/2018 10:57	2.20	NM	416.0	4.09	0.05	1.072	10.10	37.9
MW-301	04/04/2018 10:59	2.14	NM	419.0	3.88	0.05	1.098	10.33	17.4
MW-301	04/04/2018 11:01	2.12	NM	418.0	3.73	0.05	1.087	10.25	15.6
MW-301	04/04/2018 11:03	2.10	NM	420.0	3.65	0.05	1.098	10.22	12.0
MW-301	04/04/2018 11:05	2.11	NM	422.0	3.56	0.05	1.090	10.15	16.2
MW-301	04/04/2018 11:07	2.13	NM	420.0	3.52	0.06	1.109	10.30	21.5
MW-301	04/04/2018 11:10	2.10	NM	419.0	3.45	0.05	1.085	10.38	9.7
MW-301	04/04/2018 11:12	2.08	NM	419.0	3.42	0.05	1.076	10.30	33.7
MW-301	04/04/2018 11:14	2.06	NM	421.0	3.39	0.05	1.095	10.34	7.5
MW-301	04/04/2018 11:16	2.05	NM	419.0	3.36	0.05	1.071	10.43	17.4
MW-301	04/04/2018 11:18	2.10	NM	414.0	3.35	0.06	1.108	10.48	8.4
MW-301	04/04/2018 11:20	2.04	NM	411.0	3.33	0.05	1.088	10.46	8.2
MW-301	04/04/2018 11:23	2.05	NM	415.0	3.29	0.05	1.089	10.52	7.0
MW-301	04/04/2018 11:25	2.01	NM	413.0	3.27	0.05	1.088	10.79	6.8
MW-301	04/04/2018 11:27	2.08	NM	412.0	3.28	0.06	1.104	10.95	6.9
MW-301	04/05/2018 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	04/05/2018 09:44	1.73	3.66	259.0	4.48	0.06	1.211	8.82	6.1
MW-301	04/05/2018 11:27	2.08	3.05	412.0	3.28	0.05	1.107	10.83	6.9
MW-301	04/05/2018 12:04	4.87	6.78	228.0	6.84	0.06	1.120	9.63	7.3
MW-301	08/07/2018 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	08/07/2018 08:49	1.84	2.89	226.0	5.42	0.02	0.347	21.68	56.5
MW-301	08/07/2018 09:29	5.30	8.62	60.0	5.64	0.04	0.812	18.11	19.6
MW-301	08/07/2018 10:08	0.68	3.33	124.0	4.93	0.04	0.865	20.86	11.4
MW-301	11/14/2018 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	11/14/2018 13:10	0.81	2.60	143.9	5.12	0.42	0.846	14.97	46.9
MW-301	11/14/2018 14:00	0.73	5.34	67.8	5.49	0.39	0.792	14.87	18.1
MW-301	11/14/2018 14:10	0.73	5.82	70.2	5.46	0.40	0.803	14.93	9.5
MW-301	01/25/2019 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	01/25/2019 14:10	0.53	3.19	287.1	3.93	0.56	1.121	8.63	30.2
MW-301	01/25/2019 15:30	0.54	6.08	258.9	4.12	0.57	1.179	8.67	29.8
MW-301	01/25/2019 15:40	0.59	6.49	237.3	4.45	0.63	1.251	8.87	7.0
MW-301	04/12/2019 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	04/12/2019 09:25	1.38	NM	143.7	4.67	NM	1.682	10.28	3.3
MW-301	04/12/2019 10:47	3.91	9.84	175.9	4.72	0.66	1.319	10.13	10.2
MW-301	07/12/2019 10:05	2.54	2.71	157.3	5.05	NM	0.937	17.69	13.7
MW-301	07/12/2019 10:10	1.74	2.92	152.8	4.70	NM	0.934	17.52	10.0
MW-301	07/12/2019 10:15	0.80	2.98	151.6	4.28	NM	0.929	18.49	5.6
MW-301	07/12/2019 10:20	0.72	3.14	155.6	4.25	NM	0.937	18.87	2.2
MW-301	07/12/2019 10:25	0.65	3.17	161.6	4.21	NM	0.935	18.71	1.4
MW-301	07/12/2019 10:30	0.63	3.22	166.4	4.20	NM	0.933	18.70	1.5
MW-301	07/12/2019 10:35	0.62	3.27	169.8	4.21	NM	0.933	18.72	1.4
MW-301	07/12/2019 10:40	0.61	7.10	183.7	4.36	0.52	1.052	17.41	NM
MW-301	07/12/2019 10:45	0.55	7.84	186.4	4.38	0.56	1.117	NM	0.8
MW-301	07/12/2019 10:50	NM	NM	NM	NM	NM	NM	17.11	2.3
MW-301	10/18/2019 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	10/18/2019 08:35	2.18	3.80	-7.0	4.96	NM	0.934	17.30	14.3
MW-301	10/18/2019 08:40	1.52	4.05	21.1	4.92	NM	0.996	17.22	12.3
MW-301	10/18/2019 08:45	1.31	4.11	48.2	4.86	NM	0.936	17.33	9.8
MW-301	10/18/2019 08:50	1.23	4.19	63.3	4.82	NM	0.929	17.48	9.6
MW-301	10/18/2019 08:55	1.21	4.25	62.9	4.79	NM	0.925	17.46	9.3
MW-301	10/18/2019 09:00	1.24	4.31	76.0	4.76	NM	0.920	17.31	7.8
MW-301	10/18/2019 09:05	1.19	4.40	79.4	4.76	NM	0.917	17.21	8.3
MW-301	10/18/2019 09:10	1.24	4.47	83.0	4.74	NM	0.914	17.10	9.3
MW-301	10/18/2019 09:15	1.29	4.53	85.9	4.74	NM	0.912	17.08	9.4
MW-301	10/18/2019 09:20	1.37	4.60	88.2	4.74	NM	0.909	17.15	8.8
MW-301	10/18/2019 11:25	6.92	9.05	17.9	6.00	0.92	1.794	17.48	10.6
MW-301	10/18/2019 11:40	3.06	9.83	65.4	5.24	0.61	1.221	17.55	86.9
MW-301	01/23/2020 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-301	01/23/2020 08:55	6.23	3.20	42.6	4.66	NM	0.671	9.32	40.7
MW-301	01/23/2020 09:00	1.89	3.38	144.4	3.52	NM	0.643	9.63	25.1
MW-301	01/23/2020 09:05	1.50	3.47	182.9	3.37	NM	0.642	9.96	11.3
MW-301	01/23/2020 09:10	1.23	3.61	225.8	3.38	NM	0.640	10.08	19.7

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-301	**01/23/2020 09:15**	0.95	3.82	259.4	3.40	NM	0.639	10.10	16.9
MW-301	**01/23/2020 09:20**	0.90	4.06	284.2	3.42	NM	0.640	10.05	13.7
MW-301	**01/23/2020 09:25**	0.85	4.24	297.8	3.45	NM	0.636	10.10	13.6
MW-301	**01/23/2020 09:30**	0.81	4.42	305.6	3.47	NM	0.635	10.20	9.9
MW-301	**01/23/2020 09:35**	0.83	4.50	308.6	3.49	NM	0.631	10.16	10.6
MW-301	**01/23/2020 09:40**	0.80	4.64	311.5	3.52	NM	0.627	10.21	12.5
MW-301	**01/23/2020 11:10**	0.83	10.20	223.4	4.30	0.37	0.751	11.56	2.4
MW-301	**01/23/2020 11:30**	4.97	10.30	209.6	4.47	0.37	0.752	11.81	8.9
MW-301	**04/20/2020 10:05**	1.38	NM	246.9	4.08	NM	0.744	10.97	22.6
MW-301	**04/20/2020 11:10**	4.60	8.90	146.0	4.54	0.42	0.855	11.28	7.2
MW-302	**05/04/2010 11:00**	0.58	25.49	137.0	5.92	0.10	2.340	NM	189.0
MW-302	**05/04/2010 11:18**	2.32	25.24	230.0	5.57	0.10	2.300	NM	170.0
MW-302	**05/04/2010 11:20**	1.31	25.24	205.0	5.74	0.10	2.320	NM	176.0
MW-302	**05/04/2010 11:22**	1.04	25.27	19.0	5.79	0.10	2.340	NM	179.0
MW-302	**05/04/2010 11:24**	0.79	25.27	172.0	5.84	0.10	2.330	NM	189.0
MW-302	**05/04/2010 11:26**	0.65	25.32	163.0	5.85	0.10	2.340	NM	187.0
MW-302	**05/04/2010 11:28**	0.61	25.32	160.0	5.86	0.10	2.340	NM	185.0
MW-302	**05/04/2010 11:30**	0.47	25.37	151.0	5.87	0.10	2.300	NM	175.0
MW-302	**05/04/2010 11:32**	0.48	25.37	148.0	5.88	0.10	2.310	NM	167.0
MW-302	**05/04/2010 11:34**	0.54	25.41	143.0	5.90	0.10	2.360	NM	161.0
MW-302	**05/04/2010 11:36**	0.54	25.41	142.0	5.90	0.10	2.350	NM	174.0
MW-302	**05/04/2010 11:38**	0.56	25.43	140.0	5.91	0.10	2.330	NM	184.0
MW-302	**05/04/2010 11:40**	0.57	25.43	138.0	5.92	0.10	2.330	NM	190.0
MW-302	**05/04/2010 12:19**	1.02	33.14	113.0	5.91	0.10	2.310	NM	-5.0
MW-302	**05/05/2010 10:44**	0.00	0.00	0.0	0.00	0.00	0.000	NM	0.0
MW-302	**10/11/2010 08:58**	1.26	25.27	216.0	5.31	0.10	1.600	16.20	27.1
MW-302	**10/11/2010 09:00**	0.78	25.27	218.0	5.27	0.10	1.600	16.30	20.5
MW-302	**10/11/2010 09:02**	0.68	25.29	221.0	5.24	0.10	1.600	16.40	20.7
MW-302	**10/11/2010 09:04**	0.56	25.29	223.0	5.21	0.10	1.600	16.50	20.3
MW-302	**10/11/2010 09:06**	0.34	25.31	227.0	5.20	0.10	1.500	16.90	20.2
MW-302	**10/11/2010 09:08**	0.34	25.31	228.0	5.19	0.10	1.500	17.00	19.0
MW-302	**10/11/2010 09:10**	0.32	25.33	229.0	5.21	0.10	1.500	17.00	18.0
MW-302	**10/11/2010 09:12**	0.39	25.33	229.0	5.25	0.10	1.500	17.10	24.7
MW-302	**10/11/2010 09:14**	0.39	25.35	230.0	5.26	0.10	1.500	17.10	25.1
MW-302	**10/11/2010 09:16**	0.46	25.35	234.0	5.29	0.10	1.500	17.10	25.7
MW-302	**10/11/2010 09:18**	0.47	25.40	234.0	5.29	0.10	1.500	17.20	25.7
MW-302	**10/11/2010 09:20**	0.42	25.40	235.0	5.31	0.10	1.500	17.10	23.7
MW-302	**10/11/2010 09:22**	0.44	25.44	235.0	5.36	0.10	1.500	17.10	22.4
MW-302	**05/04/2011 08:39**	3.63	25.19	216.0	6.04	0.14	2.156	15.56	4.9
MW-302	**05/04/2011 08:42**	2.52	NM	218.0	6.06	0.14	2.118	14.44	1.3
MW-302	**05/04/2011 08:46**	2.49	NM	217.0	6.07	0.14	2.097	13.99	1.1
MW-302	**05/04/2011 08:50**	2.22	25.67	216.0	6.07	0.14	2.078	13.62	1.0
MW-302	**05/04/2011 08:51**	2.22	25.67	216.0	6.07	0.14	2.655	13.62	1.0
MW-302	**05/04/2011 10:30**	4.06	31.90	140.0	6.32	0.13	2.509	14.89	748.8
MW-302	**05/05/2011 08:39**	NM	31.91	NM	NM	NM	NM	NM	NM
MW-302	**08/11/2011 08:31**	3.73	25.95	238.0	5.53	0.11	1.994	22.63	2.5
MW-302	**08/11/2011 08:35**	3.29	NM	232.0	5.57	0.11	1.894	20.19	1.6
MW-302	**08/11/2011 08:39**	3.00	NM	230.0	5.57	0.11	1.864	19.66	1.9
MW-302	**08/11/2011 08:43**	2.99	26.45	227.0	5.56	0.11	1.873	19.54	4.3
MW-302	**08/11/2011 08:44**	2.99	26.45	227.0	5.56	0.11	2.091	19.54	4.3
MW-302	**08/11/2011 10:00**	4.20	22.81	93.0	6.53	0.10	1.946	17.69	1298.4
MW-302	**08/12/2011 08:34**	NM	33.14	NM	NM	NM	NM	NM	NM
MW-302	**11/07/2011 08:34**	92.26	29.64	64.0	6.17	0.10	1.544	13.28	23.1
MW-302	**11/07/2011 08:38**	58.88	NM	58.0	6.34	0.10	1.606	14.70	26.4
MW-302	**11/07/2011 08:43**	48.21	NM	52.0	6.36	0.10	1.611	14.78	24.4
MW-302	**11/07/2011 08:48**	43.15	NM	51.0	6.37	0.10	1.598	14.84	18.2
MW-302	**11/07/2011 08:52**	40.06	NM	52.0	6.37	0.10	1.619	14.72	12.8
MW-302	**11/07/2011 08:57**	37.25	30.48	55.0	6.36	0.10	1.620	15.01	12.2
MW-302	**02/08/2012 08:24**	3.85	25.36	157.0	6.37	0.09	1.811	10.15	3.7
MW-302	**02/08/2012 08:28**	2.35	NM	152.0	6.45	0.09	1.806	10.72	1.8
MW-302	**02/08/2012 08:32**	2.08	NM	147.0	6.47	0.09	1.794	11.10	2.9
MW-302	**02/08/2012 08:36**	2.05	NM	144.0	6.46	0.09	1.774	11.10	1.6
MW-302	**02/08/2012 08:41**	2.09	NM	142.0	6.45	0.09	1.754	10.91	1.7
MW-302	**02/08/2012 08:45**	2.18	NM	140.0	6.43	0.09	1.753	11.14	1.1
MW-302	**02/08/2012 08:49**	2.10	25.70	139.0	6.41	0.09	1.721	11.31	1.2
MW-302	**02/08/2012 08:50**	2.10	25.70	139.0	6.41	0.09	1.271	11.31	1.2
MW-302	**02/08/2012 09:57**	3.95	32.77	100.0	6.52	0.02	1.375	13.37	134.0
MW-302	**02/09/2012 09:57**	NM	32.70	NM	NM	NM	NM	NM	NM
MW-302	**04/04/2012 08:36**	6.43	NM	215.0	5.73	0.10	2.050	15.10	6.0
MW-302	**04/04/2012 08:38**	6.16	NM	213.0	5.73	0.10	2.040	15.30	7.4
MW-302	**04/04/2012 08:40**	5.96	NM	212.0	5.74	0.10	2.050	15.40	6.3

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-302	**04/04/2012 08:42**	5.82	NM	211.0	5.75	0.10	2.050	15.40	6.2
MW-302	**04/04/2012 08:44**	5.72	NM	210.0	5.77	0.10	2.060	15.40	5.4
MW-302	**04/04/2012 08:46**	5.66	NM	209.0	5.76	0.10	2.060	15.40	5.9
MW-302	**04/04/2012 08:48**	5.61	NM	209.0	5.77	0.10	2.060	15.40	6.0
MW-302	**04/04/2012 08:50**	5.54	NM	208.0	5.78	0.10	2.060	15.30	6.2
MW-302	**04/17/2012 11:27**	4.23	26.97	172.0	6.12	0.08	1.573	22.55	20.1
MW-302	**04/17/2012 11:29**	4.67	NM	172.0	6.23	0.08	1.558	17.90	14.0
MW-302	**04/17/2012 11:33**	4.80	NM	177.0	6.23	0.08	1.543	16.89	15.9
MW-302	**04/17/2012 11:37**	4.78	NM	183.0	6.19	0.08	1.517	16.61	13.4
MW-302	**04/17/2012 11:41**	5.04	NM	190.0	6.14	0.08	1.504	16.63	12.5
MW-302	**04/17/2012 11:45**	5.39	NM	198.0	6.07	0.08	1.489	16.44	10.4
MW-302	**04/17/2012 11:49**	5.73	NM	207.0	6.00	0.07	1.464	16.34	12.8
MW-302	**04/17/2012 11:53**	5.91	NM	215.0	5.92	0.07	1.447	16.49	12.2
MW-302	**04/17/2012 11:57**	6.45	NM	227.0	5.81	0.07	1.430	16.37	12.1
MW-302	**04/17/2012 12:01**	6.69	NM	239.0	5.71	0.07	1.411	16.47	16.5
MW-302	**04/17/2012 12:05**	6.76	NM	248.0	5.67	0.07	1.406	16.39	15.2
MW-302	**04/17/2012 12:09**	6.81	NM	253.0	5.64	0.07	1.398	16.59	14.0
MW-302	**04/17/2012 12:12**	6.83	NM	256.0	5.62	0.07	1.397	16.56	12.2
MW-302	**04/17/2012 12:16**	6.56	27.34	258.0	5.62	0.07	1.384	16.81	11.4
MW-302	**04/17/2012 13:12**	5.77	31.01	49.0	6.52	0.08	1.520	18.45	35.1
MW-302	**04/18/2012 09:35**	2.92	32.53	29.0	6.65	0.10	1.690	15.40	NM
MW-302	**07/17/2012 08:50**	3.38	24.46	171.0	5.54	0.08	1.515	26.14	8.6
MW-302	**07/17/2012 08:55**	3.81	NM	193.0	5.57	0.08	1.516	20.56	7.4
MW-302	**07/17/2012 08:59**	3.55	NM	198.0	5.52	0.08	1.502	20.02	8.5
MW-302	**07/17/2012 09:03**	3.34	NM	203.0	5.50	0.08	1.504	20.08	8.6
MW-302	**07/17/2012 09:07**	3.38	NM	206.0	5.54	0.08	1.522	19.64	6.8
MW-302	**07/17/2012 09:11**	3.27	NM	208.0	5.55	0.08	1.498	19.90	8.2
MW-302	**07/17/2012 09:15**	3.26	NM	210.0	5.56	0.08	1.515	20.01	9.2
MW-302	**07/17/2012 09:19**	3.23	NM	212.0	5.50	0.08	1.517	19.70	7.8
MW-302	**07/17/2012 09:23**	3.20	NM	213.0	5.47	0.08	1.507	19.94	8.6
MW-302	**07/17/2012 09:27**	3.19	24.98	214.0	5.47	0.08	1.507	19.80	7.8
MW-302	**07/17/2012 09:28**	3.19	24.98	214.0	5.47	0.08	1.507	19.80	7.8
MW-302	**07/17/2012 11:06**	2.57	32.64	106.0	6.28	0.08	1.482	21.08	79.8
MW-302	**07/18/2012 09:50**	NM	32.55	NM	NM	NM	NM	NM	NM
MW-302	**10/22/2012 08:00**	NM	32.72	NM	NM	NM	NM	NM	NM
MW-302	**10/22/2012 08:34**	6.76	NM	217.0	5.72	0.10	2.090	14.70	6.2
MW-302	**10/22/2012 08:50**	5.54	24.76	208.0	5.78	0.10	2.060	15.34	6.2
MW-302	**10/23/2012 08:00**	NM	30.39	NM	NM	NM	NM	NM	NM
MW-302	**03/14/2013 09:24**	7.36	15.53	-155.0	10.43	0.10	1.952	10.56	9.7
MW-302	**03/14/2013 12:27**	9.20	31.02	90.0	6.76	0.17	3.233	7.92	48.6
MW-302	**03/15/2013 09:40**	3.41	29.42	-116.0	5.50	0.13	2.559	16.17	203.1
MW-302	**05/15/2013 09:11**	4.89	14.10	-140.0	10.05	0.07	1.354	15.33	2.3
MW-302	**05/15/2013 11:12**	2.95	28.37	-87.0	6.78	0.07	1.477	15.58	904.3
MW-302	**05/16/2013 09:49**	2.61	16.23	-98.0	6.29	0.07	1.372	15.53	91.4
MW-302	**10/21/2013 09:38**	2.58	22.80	-189.0	5.59	0.15	2.783	15.32	0.9
MW-302	**10/21/2013 11:00**	1.56	33.33	-160.0	6.31	0.14	2.659	15.37	93.3
MW-302	**10/22/2013 00:00**	NM	32.96	NM	NM	NM	NM	NM	NM
MW-302	**03/24/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**03/24/2014 09:58**	4.37	17.79	-10.0	6.63	0.14	2.667	6.50	1.3
MW-302	**03/24/2014 11:57**	7.36	32.82	30.0	6.37	0.08	1.654	9.15	652.2
MW-302	**03/25/2014 00:00**	NM	31.96	NM	NM	NM	NM	NM	NM
MW-302	**05/12/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**05/12/2014 08:48**	6.26	21.44	-122.0	6.17	0.06	1.170	17.76	2.7
MW-302	**05/12/2014 11:28**	6.59	33.76	-90.0	6.59	0.04	0.769	21.10	290.1
MW-302	**05/13/2014 00:00**	NM	33.13	NM	NM	NM	NM	NM	NM
MW-302	**07/30/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**07/30/2014 13:10**	4.43	21.98	-159.0	5.88	0.09	1.851	21.21	16.9
MW-302	**07/30/2014 14:18**	4.97	33.52	-177.0	6.03	0.10	1.864	24.28	473.3
MW-302	**07/31/2014 00:00**	NM	32.52	NM	NM	NM	NM	NM	NM
MW-302	**10/21/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**10/21/2014 13:46**	4.66	22.83	232.0	5.48	0.12	2.401	17.68	7.0
MW-302	**10/21/2014 14:54**	7.75	29.65	108.0	5.71	0.14	2.591	16.72	271.9
MW-302	**10/22/2014 00:00**	NM	29.15	NM	NM	NM	NM	NM	NM
MW-302	**03/18/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**03/18/2015 15:50**	5.27	18.30	-166.0	6.74	0.11	2.115	6.46	5.7
MW-302	**03/18/2015 17:08**	2.02	30.88	-145.0	6.39	0.15	2.839	11.18	133.1
MW-302	**03/19/2015 00:00**	NM	30.15	NM	NM	NM	NM	NM	NM
MW-302	**05/22/2015 00:00**	NM	31.56	NM	NM	NM	NM	NM	NM
MW-302	**05/22/2015 10:07**	4.82	31.51	88.0	5.96	0.12	2.231	18.34	1277.8
MW-302	**09/29/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**09/29/2015 11:54**	3.91	32.57	239.0	6.33	0.13	2.464	16.98	233.6

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-302	**09/29/2015 12:09**	0.00	31.71	248.0	5.52	0.12	2.407	15.50	271.7
MW-302	**11/13/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**11/13/2015 09:16**	NM	33.09	NM	NM	NM	NM	NM	NM
MW-302	**11/13/2015 12:10**	3.34	33.73	46.0	6.07	0.30	5.551	15.67	2487.4
MW-302	**02/25/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**02/25/2016 10:33**	NM	31.06	NM	NM	NM	NM	NM	NM
MW-302	**02/25/2016 11:07**	2.79	33.43	19.0	5.68	0.08	1.633	15.56	57.2
MW-302	**04/21/2016 00:00**	NM	33.65	NM	NM	NM	NM	NM	NM
MW-302	**04/21/2016 11:37**	5.54	34.04	1.0	6.38	0.02	0.430	18.49	3166.6
MW-302	**07/06/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**07/06/2016 11:37**	4.50	31.89	-31.0	5.55	0.87	14.900	16.64	197.0
MW-302	**07/06/2016 12:48**	NM	29.83	NM	NM	NM	NM	NM	NM
MW-302	**10/06/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**10/06/2016 10:13**	NM	32.90	NM	NM	NM	NM	NM	NM
MW-302	**10/06/2016 11:27**	2.40	33.41	-31.0	7.45	0.18	3.357	16.43	49.5
MW-302	**01/05/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**01/05/2017 09:53**	NM	29.12	NM	NM	NM	NM	NM	NM
MW-302	**01/05/2017 11:04**	4.46	30.42	73.0	6.06	0.27	4.926	16.90	179.1
MW-302	**04/13/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**04/13/2017 10:36**	NM	8.70	NM	NM	0.07	1.310	NM	NM
MW-302	**07/14/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**07/14/2017 09:45**	NM	29.21	NM	NM	NM	NM	NM	NM
MW-302	**07/14/2017 09:46**	0.86	19.68	220.0	6.80	0.22	4.116	21.16	1.5
MW-302	**07/14/2017 11:03**	0.89	29.87	233.0	7.61	0.24	4.522	17.50	36.2
MW-302	**10/04/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**10/04/2017 10:06**	3.21	29.40	179.0	6.07	0.69	12.031	15.83	219.9
MW-302	**10/04/2017 10:28**	3.00	22.30	169.0	5.80	1.14	19.210	17.73	10.8
MW-302	**10/04/2017 11:31**	6.10	31.02	109.0	7.02	7.87	106.792	16.75	16.2
MW-302	**01/09/2018 10:09**	5.80	22.80	261.0	7.75	0.09	1.860	8.10	6.8
MW-302	**01/09/2018 10:13**	2.04	NM	252.0	7.34	0.10	1.913	10.88	6.3
MW-302	**01/09/2018 10:17**	1.57	NM	243.0	7.04	0.10	1.993	10.81	7.9
MW-302	**01/09/2018 10:21**	1.66	NM	236.0	6.84	0.11	2.069	10.39	6.6
MW-302	**01/09/2018 10:25**	1.59	NM	229.0	6.66	0.11	2.097	10.62	5.5
MW-302	**01/09/2018 10:30**	1.39	NM	223.0	6.51	0.11	2.134	10.27	5.7
MW-302	**01/09/2018 10:34**	1.23	NM	218.0	6.39	0.11	2.167	10.15	5.0
MW-302	**01/09/2018 10:38**	1.06	NM	212.0	6.28	0.11	2.126	11.02	5.3
MW-302	**01/09/2018 10:42**	0.90	NM	208.0	6.19	0.11	2.173	10.41	4.3
MW-302	**01/09/2018 10:46**	0.82	NM	204.0	6.11	0.11	2.155	10.88	6.9
MW-302	**01/09/2018 10:51**	0.80	NM	201.0	6.04	0.11	2.160	10.92	6.0
MW-302	**01/09/2018 10:55**	0.91	NM	199.0	5.99	0.11	2.161	10.87	4.9
MW-302	**01/09/2018 10:59**	6.45	23.60	206.0	5.94	0.11	2.221	9.79	182.1
MW-302	**01/10/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**01/10/2018 10:26**	2.91	31.37	199.0	5.75	0.10	1.900	16.10	129.5
MW-302	**01/10/2018 10:59**	6.45	23.60	206.0	5.94	0.11	2.230	9.65	182.1
MW-302	**01/10/2018 12:02**	7.03	32.38	267.0	7.78	0.07	1.415	8.71	25.2
MW-302	**04/03/2018 09:45**	7.26	17.28	182.0	7.25	0.16	3.040	11.00	12.9
MW-302	**04/03/2018 09:49**	2.73	NM	182.0	6.88	0.16	3.062	11.31	9.6
MW-302	**04/03/2018 09:53**	2.44	NM	181.0	6.77	0.16	3.041	11.27	6.5
MW-302	**04/03/2018 09:57**	2.41	NM	179.0	6.71	0.16	3.055	10.88	5.9
MW-302	**04/03/2018 10:01**	2.33	NM	179.0	6.65	0.16	3.058	10.80	7.0
MW-302	**04/03/2018 10:05**	2.30	NM	178.0	6.60	0.16	3.057	11.02	7.0
MW-302	**04/03/2018 10:10**	2.27	17.67	177.0	6.56	0.16	3.056	11.05	6.5
MW-302	**04/04/2018 00:00**	NM	29.89	NM	NM	NM	NM	NM	NM
MW-302	**04/04/2018 10:09**	2.27	17.67	177.0	6.56	0.16	3.065	10.93	6.5
MW-302	**04/04/2018 11:18**	NM	33.84	NM	NM	NM	NM	NM	NM
MW-302	**07/10/2018 08:19**	3.50	NM	86.0	6.63	0.13	2.565	25.30	5.1
MW-302	**07/10/2018 08:23**	2.40	NM	-16.0	6.01	0.13	2.481	21.79	8.1
MW-302	**07/10/2018 08:27**	2.05	NM	-53.0	5.86	0.13	2.486	20.49	7.3
MW-302	**07/10/2018 08:32**	1.54	NM	-67.0	5.81	0.13	2.487	20.54	5.6
MW-302	**07/10/2018 08:36**	1.26	NM	-76.0	5.78	0.13	2.485	20.65	5.8
MW-302	**07/10/2018 08:40**	1.29	NM	-82.0	5.78	0.13	2.490	20.75	5.0
MW-302	**07/10/2018 08:44**	1.40	NM	-85.0	5.77	0.13	2.492	20.69	7.0
MW-302	**07/10/2018 08:48**	1.35	NM	-88.0	5.77	0.13	2.493	20.82	5.6
MW-302	**07/10/2018 08:53**	1.36	NM	-92.0	5.77	0.13	2.491	20.62	5.8
MW-302	**07/10/2018 08:57**	1.31	NM	-95.0	5.77	0.13	2.495	20.52	5.9
MW-302	**07/11/2018 00:00**	NM	30.71	NM	NM	NM	NM	NM	NM
MW-302	**07/11/2018 08:57**	1.31	21.67	-95.0	5.77	0.13	2.486	20.70	5.9
MW-302	**07/11/2018 10:22**	1.82	32.96	-53.0	6.32	0.13	2.439	19.44	53.2
MW-302	**11/19/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**11/19/2018 14:10**	0.68	21.10	246.7	4.49	0.58	1.156	16.82	1.9
MW-302	**11/19/2018 15:10**	0.44	24.06	295.1	4.28	0.71	1.404	16.69	41.5

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-302	**11/19/2018 15:20**	0.38	25.18	300.2	4.27	0.72	1.420	16.57	28.8
MW-302	**01/23/2019 13:20**	2.51	NM	198.1	5.86	NM	2.920	13.39	NM
MW-302	**01/23/2019 15:10**	2.57	22.01	223.9	5.64	1.54	2.933	15.64	0.0
MW-302	**04/18/2019 13:15**	1.37	NM	159.4	10.93	NM	1.582	14.05	2.1
MW-302	**04/18/2019 15:32**	1.56	21.96	160.8	8.19	0.89	1.749	14.32	1.8
MW-302	**07/18/2019 10:05**	2.64	16.52	103.6	6.95	NM	1.215	19.88	1.3
MW-302	**07/18/2019 10:10**	2.19	16.59	91.4	6.98	NM	1.165	20.77	1.1
MW-302	**07/18/2019 10:15**	2.66	16.64	92.0	6.96	NM	1.157	21.97	0.6
MW-302	**07/18/2019 10:20**	2.69	16.68	95.5	6.94	NM	1.136	22.11	1.3
MW-302	**07/18/2019 10:25**	2.66	16.72	104.4	6.83	NM	1.095	21.92	1.8
MW-302	**07/18/2019 10:30**	2.05	16.77	121.4	6.64	NM	1.191	22.15	1.8
MW-302	**07/18/2019 10:35**	2.53	16.81	115.6	6.69	NM	1.114	21.99	2.1
MW-302	**07/18/2019 10:40**	2.36	16.85	118.4	6.67	NM	1.140	21.97	1.9
MW-302	**07/18/2019 10:45**	2.26	16.89	120.6	6.64	NM	1.156	22.26	1.9
MW-302	**07/18/2019 10:50**	2.05	16.92	121.4	6.64	NM	1.191	22.15	1.8
MW-302	**07/19/2019 08:45**	5.53	18.82	90.5	6.70	0.73	1.442	16.16	2.1
MW-302	**07/19/2019 09:00**	2.85	19.06	97.5	6.75	0.74	1.463	18.13	1.2
MW-302	**07/19/2019 10:30**	2.05	16.92	121.4	6.64	NM	1.191	22.15	1.8
MW-302	**10/17/2019 08:10**	4.10	20.49	218.2	6.42	NM	0.940	16.21	6.4
MW-302	**10/17/2019 08:15**	0.85	20.68	227.2	6.06	NM	0.883	16.25	1.3
MW-302	**10/17/2019 08:20**	0.64	20.82	226.5	6.05	NM	0.883	16.27	1.4
MW-302	**10/17/2019 08:25**	0.62	20.94	226.3	6.05	NM	0.882	16.26	1.1
MW-302	**10/17/2019 08:30**	0.58	21.05	225.2	6.04	NM	0.882	16.26	0.9
MW-302	**10/17/2019 08:35**	0.59	21.14	225.9	6.06	NM	0.882	16.29	0.9
MW-302	**10/17/2019 08:40**	0.55	21.26	225.7	6.05	NM	0.882	16.33	0.8
MW-302	**10/18/2019 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**10/18/2019 08:05**	3.02	28.42	233.4	6.56	0.43	0.865	15.48	5.4
MW-302	**10/18/2019 08:25**	4.96	28.78	220.3	6.28	0.34	0.701	15.06	97.2
MW-302	**01/15/2020 08:45**	4.71	17.67	222.7	5.81	NM	0.945	11.69	10.5
MW-302	**01/15/2020 08:50**	1.56	17.90	216.4	5.66	NM	0.905	14.64	1.6
MW-302	**01/15/2020 08:55**	1.36	18.06	206.7	5.66	NM	0.906	15.05	2.9
MW-302	**01/15/2020 09:00**	1.84	18.39	202.5	5.70	NM	0.911	15.27	2.8
MW-302	**01/15/2020 09:05**	1.53	18.63	202.0	5.71	NM	0.911	15.33	2.7
MW-302	**01/15/2020 09:10**	1.47	18.88	207.7	5.72	NM	0.910	15.39	3.0
MW-302	**01/15/2020 09:15**	1.45	19.11	204.5	5.74	NM	0.913	15.47	3.3
MW-302	**01/15/2020 09:20**	1.28	19.35	212.5	5.75	NM	0.907	15.54	3.7
MW-302	**01/15/2020 09:25**	1.23	19.74	217.9	5.75	NM	0.901	15.50	3.4
MW-302	**01/15/2020 09:30**	1.23	19.97	214.2	5.76	NM	0.894	15.51	3.7
MW-302	**01/16/2020 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-302	**01/16/2020 08:35**	5.31	28.02	233.7	5.85	0.76	1.509	15.71	7.9
MW-302	**01/16/2020 08:50**	6.12	28.54	249.0	5.86	0.64	1.270	14.81	195.8
MW-302	**04/21/2020 09:20**	0.64	NM	100.7	6.36	NM	1.216	15.18	6.8
MW-302	**04/21/2020 10:40**	6.30	31.80	89.1	6.56	0.68	1.348	17.17	2101.4
MW-303	**05/04/2010 13:40**	1.46	4.25	284.0	4.71	0.10	1.980	NM	144.0
MW-303	**05/04/2010 13:42**	0.86	4.25	240.0	4.54	0.10	1.990	NM	13.0
MW-303	**05/04/2010 13:44**	0.80	4.32	225.0	4.52	0.10	1.990	NM	121.0
MW-303	**05/04/2010 13:46**	0.70	4.32	199.0	4.49	0.10	1.970	NM	1230.0
MW-303	**05/04/2010 13:48**	0.68	4.35	195.0	4.49	0.10	1.960	NM	136.0
MW-303	**05/04/2010 13:50**	0.60	4.35	182.0	4.48	0.10	1.960	NM	133.0
MW-303	**05/04/2010 13:52**	0.59	4.30	175.0	4.47	0.10	1.970	NM	134.0
MW-303	**05/04/2010 13:54**	0.60	4.39	170.0	4.47	0.10	1.990	NM	142.0
MW-303	**05/04/2010 13:56**	0.56	4.39	165.0	4.46	0.10	1.970	NM	127.0
MW-303	**05/04/2010 13:58**	0.52	4.39	160.0	4.47	0.10	1.970	NM	128.0
MW-303	**05/04/2010 14:00**	0.52	4.40	157.0	4.48	0.10	1.980	NM	130.0
MW-303	**05/04/2010 14:02**	0.50	4.44	154.0	4.48	0.10	1.990	NM	140.0
MW-303	**05/04/2010 14:04**	0.46	4.46	150.0	4.49	0.10	1.970	NM	137.0
MW-303	**05/04/2010 14:48**	0.52	12.46	120.0	4.52	0.10	1.910	NM	179.0
MW-303	**05/05/2010 11:25**	1.06	12.22	165.0	4.62	0.10	1.850	NM	91.6
MW-303	**10/11/2010 12:42**	2.09	3.47	29.0	5.49	0.10	1.600	21.70	10.3
MW-303	**10/11/2010 12:44**	1.75	3.47	27.0	5.49	0.10	1.600	21.60	8.8
MW-303	**10/11/2010 12:46**	1.32	3.53	27.0	5.48	0.10	1.600	21.60	8.1
MW-303	**10/11/2010 12:48**	0.86	3.53	26.0	5.46	0.10	1.600	21.40	5.3
MW-303	**10/11/2010 12:50**	0.51	3.88	26.0	5.45	0.10	1.600	21.40	6.8
MW-303	**10/11/2010 12:52**	0.34	3.88	25.0	5.44	0.10	1.600	21.40	69.0
MW-303	**10/11/2010 12:54**	0.35	3.93	24.0	5.45	0.10	1.600	21.50	9.0
MW-303	**10/11/2010 12:56**	0.38	3.93	23.0	5.45	0.10	1.600	21.50	7.9
MW-303	**10/11/2010 12:58**	0.25	3.97	22.0	5.47	0.10	1.600	21.50	8.3
MW-303	**10/11/2010 13:00**	0.21	3.97	21.0	5.48	0.10	1.600	21.30	10.3
MW-303	**10/11/2010 13:02**	0.16	4.02	20.0	5.49	0.10	1.600	21.40	3.6
MW-303	**10/11/2010 13:04**	0.13	4.02	19.0	5.49	0.10	1.600	21.50	3.7
MW-303	**10/11/2010 13:06**	0.15	4.07	18.0	5.49	0.10	1.600	21.30	3.9

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-303	**10/11/2010 13:43**	0.04	9.78	131.0	4.68	0.10	1.800	20.10	2.3
MW-303	**10/12/2010 09:30**	0.27	9.78	159.0	4.63	0.10	1.800	18.90	18.0
MW-303	**05/04/2011 12:59**	2.62	3.04	155.0	4.69	0.11	1.630	12.67	24.6
MW-303	**05/04/2011 13:00**	2.61	NM	168.0	4.65	0.11	1.661	13.01	15.6
MW-303	**05/04/2011 13:02**	2.08	NM	179.0	4.61	0.11	1.666	12.93	17.2
MW-303	**05/04/2011 13:04**	1.66	NM	185.0	4.59	0.11	1.663	12.89	15.8
MW-303	**05/04/2011 13:06**	1.32	NM	190.0	4.57	0.11	1.662	12.89	16.5
MW-303	**05/04/2011 13:08**	1.12	NM	193.0	4.56	0.11	1.662	12.88	16.7
MW-303	**05/04/2011 13:10**	1.02	NM	196.0	4.56	0.11	1.663	12.91	15.9
MW-303	**05/04/2011 13:12**	0.95	3.35	199.0	4.55	0.11	1.663	12.87	16.4
MW-303	**05/04/2011 13:13**	0.95	3.35	199.0	4.55	0.11	2.164	4.55	16.4
MW-303	**05/04/2011 14:11**	2.31	10.62	170.0	4.81	0.11	2.089	4.81	20.3
MW-303	**05/05/2011 11:32**	0.53	10.49	194.0	4.72	0.11	2.065	4.72	12.1
MW-303	**08/11/2011 12:27**	2.19	3.21	163.0	4.87	0.09	1.903	26.83	11.0
MW-303	**08/11/2011 12:29**	0.68	NM	174.0	4.80	0.09	1.845	25.57	10.3
MW-303	**08/11/2011 12:31**	0.61	NM	179.0	4.80	0.09	1.844	25.47	10.9
MW-303	**08/11/2011 12:32**	0.51	NM	181.0	4.81	0.09	1.838	25.36	10.6
MW-303	**08/11/2011 12:34**	0.49	NM	182.0	4.82	0.09	1.840	25.39	11.3
MW-303	**08/11/2011 12:36**	0.51	NM	183.0	4.84	0.09	1.842	25.43	11.4
MW-303	**08/11/2011 12:38**	0.51	NM	183.0	4.84	0.09	1.841	25.53	10.9
MW-303	**08/11/2011 12:40**	0.50	NM	184.0	4.86	0.09	1.846	25.60	10.9
MW-303	**08/11/2011 12:42**	0.49	NM	184.0	4.86	0.09	1.849	25.72	10.3
MW-303	**08/11/2011 12:43**	0.49	3.78	184.0	4.86	0.09	1.824	25.72	10.3
MW-303	**08/11/2011 12:44**	0.46	3.78	184.0	4.86	0.09	1.850	25.68	10.5
MW-303	**08/11/2011 13:35**	-1.09	15.01	190.0	4.61	0.10	1.904	16.47	20.9
MW-303	**08/12/2011 11:46**	3.57	14.51	317.0	3.92	0.14	2.584	16.00	404.0
MW-303	**11/07/2011 10:53**	12.66	5.18	187.0	4.07	0.10	1.540	14.98	3.1
MW-303	**11/07/2011 10:55**	12.35	NM	261.0	4.04	0.09	1.493	15.99	1.3
MW-303	**11/07/2011 10:57**	11.31	NM	294.0	3.92	0.09	1.540	16.91	1.3
MW-303	**11/07/2011 10:59**	10.83	NM	307.0	3.88	0.09	1.552	17.02	1.3
MW-303	**11/07/2011 11:01**	10.57	NM	310.0	3.88	0.09	1.559	17.04	1.4
MW-303	**11/07/2011 11:03**	10.38	NM	315.0	3.87	0.10	1.573	16.98	1.3
MW-303	**11/07/2011 11:05**	10.14	NM	316.0	3.87	0.10	1.585	16.96	1.2
MW-303	**11/07/2011 11:07**	9.94	5.57	316.0	3.87	0.10	1.602	16.99	1.4
MW-303	**11/07/2011 11:08**	9.94	5.57	316.0	3.87	0.10	1.891	16.99	1.4
MW-303	**11/07/2011 11:51**	7.43	14.67	136.0	4.87	0.11	2.086	16.90	58.2
MW-303	**11/08/2011 10:26**	5.16	14.13	325.0	3.89	0.09	1.793	17.40	15.4
MW-303	**02/08/2012 12:10**	-0.16	5.89	381.0	3.99	0.09	1.794	9.81	1.8
MW-303	**02/08/2012 12:13**	-0.16	NM	403.0	3.89	0.09	1.791	9.85	0.4
MW-303	**02/08/2012 12:15**	212.11	NM	413.0	3.85	0.09	1.791	11.15	0.2
MW-303	**02/08/2012 12:18**	38.05	NM	417.0	3.84	0.09	1.798	11.65	0.1
MW-303	**02/08/2012 12:20**	28.05	NM	420.0	3.83	0.09	1.815	11.89	0.1
MW-303	**02/08/2012 12:23**	19.91	NM	422.0	3.82	0.09	1.821	11.67	0.1
MW-303	**02/08/2012 12:25**	14.04	NM	424.0	3.81	0.09	1.823	12.08	0.1
MW-303	**02/08/2012 12:28**	10.07	NM	425.0	3.81	0.09	1.831	12.01	0.3
MW-303	**02/08/2012 12:30**	7.42	NM	426.0	3.80	0.09	1.822	11.99	0.4
MW-303	**02/08/2012 12:33**	5.62	NM	427.0	3.80	0.09	1.825	12.08	0.4
MW-303	**02/08/2012 12:36**	4.43	NM	428.0	3.79	0.09	1.832	11.98	0.5
MW-303	**02/08/2012 12:38**	3.61	NM	428.0	3.79	0.09	1.829	11.82	0.4
MW-303	**02/08/2012 12:41**	3.04	NM	430.0	3.79	0.09	1.829	12.07	0.3
MW-303	**02/08/2012 12:43**	2.62	NM	430.0	3.79	0.09	1.834	11.96	0.3
MW-303	**02/08/2012 12:46**	2.33	NM	430.0	3.79	0.09	1.821	11.94	0.4
MW-303	**02/08/2012 12:48**	2.13	NM	431.0	3.79	0.09	1.832	11.83	0.7
MW-303	**02/08/2012 12:51**	1.97	NM	431.0	3.79	0.09	1.825	11.83	0.4
MW-303	**02/08/2012 12:53**	1.83	NM	431.0	3.78	0.09	1.830	11.91	0.5
MW-303	**02/08/2012 12:56**	1.72	NM	432.0	3.78	0.09	1.822	11.92	0.3
MW-303	**02/08/2012 12:58**	1.66	6.67	432.0	3.78	0.09	1.826	11.98	0.9
MW-303	**02/08/2012 12:59**	1.66	6.67	432.0	3.78	0.09	1.827	11.98	0.9
MW-303	**02/08/2012 13:45**	4.50	16.96	417.0	3.83	0.09	1.822	12.67	20.2
MW-303	**02/09/2012 11:03**	5.08	16.62	356.0	4.06	0.09	1.721	15.04	47.1
MW-303	**04/17/2012 14:00**	2.96	8.03	449.0	4.15	0.09	1.747	25.47	4.4
MW-303	**04/17/2012 14:02**	3.34	NM	483.0	3.91	0.09	1.753	15.86	7.1
MW-303	**04/17/2012 14:04**	2.93	NM	483.0	3.89	0.09	1.748	16.51	4.4
MW-303	**04/17/2012 14:07**	2.86	NM	483.0	3.89	0.09	1.756	16.86	4.8
MW-303	**04/17/2012 14:09**	2.84	NM	486.0	3.88	0.09	1.749	17.09	5.2
MW-303	**04/17/2012 14:11**	2.79	NM	489.0	3.86	0.09	1.742	17.22	5.7
MW-303	**04/17/2012 14:14**	2.72	8.31	486.0	3.85	0.09	1.742	17.72	5.8
MW-303	**04/17/2012 15:04**	2.91	16.34	420.0	3.89	0.08	1.632	13.65	29.1
MW-303	**04/18/2012 11:55**	3.52	10.41	481.0	3.44	0.10	1.800	13.43	4.4
MW-303	**07/17/2012 13:21**	1.15	3.34	203.0	4.88	0.08	1.651	32.33	8.2
MW-303	**07/17/2012 13:23**	0.82	NM	235.0	4.46	0.09	1.669	28.85	11.3

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-303	**07/17/2012 13:25**	0.56	NM	246.0	4.43	0.08	1.644	27.51	9.0
MW-303	**07/17/2012 13:27**	0.47	NM	252.0	4.39	0.08	1.644	27.22	11.6
MW-303	**07/17/2012 13:28**	0.41	NM	257.0	4.36	0.08	1.644	27.06	12.0
MW-303	**07/17/2012 13:30**	0.38	NM	259.0	4.34	0.08	1.644	27.08	12.3
MW-303	**07/17/2012 13:32**	0.34	NM	261.0	4.34	0.08	1.647	27.16	12.6
MW-303	**07/17/2012 13:34**	0.32	NM	262.0	4.34	0.08	1.647	26.89	14.1
MW-303	**07/17/2012 13:35**	0.31	NM	263.0	4.35	0.08	1.645	26.64	12.6
MW-303	**07/17/2012 13:37**	0.29	NM	264.0	4.33	0.08	1.640	27.11	13.5
MW-303	**07/17/2012 13:39**	0.29	3.78	263.0	4.36	0.80	1.649	27.18	13.0
MW-303	**07/17/2012 14:29**	4.04	11.65	220.0	4.68	0.90	1.705	17.51	17.6
MW-303	**07/18/2012 10:30**	0.00	11.37	294.0	4.41	0.80	1.653	15.22	6.6
MW-303	**10/22/2012 13:34**	5.35	NM	220.0	4.68	0.10	1.520	19.10	38.9
MW-303	**10/22/2012 13:36**	4.85	NM	223.0	4.69	0.10	1.520	19.20	37.3
MW-303	**10/22/2012 13:38**	4.66	NM	225.0	4.69	0.10	1.520	19.20	27.6
MW-303	**10/22/2012 13:40**	4.50	NM	234.0	4.69	0.10	1.530	19.20	24.1
MW-303	**10/22/2012 13:42**	4.42	NM	232.0	4.68	0.10	1.530	19.20	22.7
MW-303	**10/22/2012 13:44**	4.34	NM	235.0	4.70	0.10	1.530	19.20	20.5
MW-303	**10/22/2012 13:46**	4.26	NM	238.0	4.68	0.10	1.540	19.20	24.9
MW-303	**10/22/2012 13:48**	4.19	NM	241.0	4.69	0.10	1.540	19.20	25.9
MW-303	**10/22/2012 13:50**	4.14	4.26	242.0	4.68	0.10	1.540	19.19	25.4
MW-303	**10/22/2012 14:41**	6.29	12.59	243.0	4.46	0.10	1.510	19.04	17.9
MW-303	**10/23/2012 10:54**	6.39	12.26	279.0	4.18	0.10	1.460	18.52	48.2
MW-303	**02/11/2013 11:57**	2.74	5.00	121.0	4.11	0.09	1.843	8.82	2.4
MW-303	**02/11/2013 12:00**	1.70	NM	224.0	3.64	0.09	1.781	9.97	1.9
MW-303	**02/11/2013 12:03**	2.25	NM	273.0	3.61	0.09	1.750	10.88	4.4
MW-303	**02/11/2013 12:05**	2.04	NM	291.0	3.62	0.09	1.764	10.86	1.0
MW-303	**02/11/2013 12:08**	1.80	NM	308.0	3.62	0.09	1.769	10.89	1.1
MW-303	**02/11/2013 12:11**	1.70	NM	326.0	3.63	0.09	1.770	11.09	1.7
MW-303	**02/11/2013 12:13**	1.50	NM	337.0	3.64	0.09	1.773	11.15	4.4
MW-303	**02/11/2013 12:16**	1.48	NM	359.0	3.64	0.09	1.773	11.11	0.9
MW-303	**02/11/2013 12:18**	1.44	NM	376.0	3.64	0.09	1.774	11.23	7.4
MW-303	**02/11/2013 12:21**	1.36	NM	391.0	3.64	0.09	1.774	11.25	1.1
MW-303	**02/11/2013 12:24**	1.27	NM	401.0	3.65	0.09	1.778	11.22	1.1
MW-303	**02/11/2013 12:26**	1.34	NM	411.0	3.65	0.09	1.780	11.10	1.0
MW-303	**02/11/2013 12:29**	1.28	NM	420.0	3.65	0.09	1.776	11.23	1.2
MW-303	**02/11/2013 12:32**	1.16	NM	428.0	3.66	0.09	1.778	11.17	1.2
MW-303	**02/11/2013 12:34**	1.05	NM	432.0	3.66	0.09	1.778	11.17	1.7
MW-303	**02/11/2013 12:37**	1.10	NM	436.0	3.66	0.09	1.776	11.16	1.2
MW-303	**02/11/2013 12:40**	1.05	NM	441.0	3.66	0.09	1.775	11.29	1.5
MW-303	**02/11/2013 12:42**	0.99	NM	442.0	3.67	0.09	1.771	11.35	1.2
MW-303	**02/11/2013 12:45**	0.96	5.93	445.0	3.67	0.09	1.774	11.30	1.4
MW-303	**02/11/2013 12:46**	0.96	5.93	445.0	3.67	0.09	1.774	11.44	1.5
MW-303	**02/11/2013 13:39**	2.30	14.92	127.0	4.18	0.09	1.699	12.69	24.1
MW-303	**02/12/2013 10:25**	0.94	11.08	-68.0	4.14	0.09	1.797	14.59	23.6
MW-303	**05/15/2013 13:41**	2.16	4.71	-45.0	4.70	0.11	2.231	15.72	4.6
MW-303	**05/15/2013 14:24**	1.69	11.41	-68.0	5.05	0.11	2.210	13.27	16.9
MW-303	**05/16/2013 11:26**	0.94	10.99	-40.0	4.78	0.10	1.864	13.55	9.9
MW-303	**10/21/2013 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	**10/21/2013 13:36**	3.40	4.47	-175.0	5.30	0.10	2.023	19.19	0.3
MW-303	**10/21/2013 14:21**	1.65	11.65	-180.0	5.17	0.12	2.224	18.82	4.4
MW-303	**10/22/2013 11:05**	1.76	9.62	-190.0	5.42	0.11	2.111	18.19	8.9
MW-303	**03/24/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	**03/24/2014 13:32**	1.60	3.48	112.0	4.52	0.13	2.511	7.38	5.3
MW-303	**03/24/2014 14:12**	3.24	13.99	84.0	4.56	0.09	1.778	11.90	51.2
MW-303	**03/25/2014 11:04**	3.01	13.06	-57.0	4.51	0.16	2.980	13.09	15.2
MW-303	**05/12/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	**05/12/2014 14:00**	6.18	7.73	-123.0	5.06	0.06	1.277	17.05	3.2
MW-303	**05/12/2014 14:35**	8.47	14.42	-84.0	6.31	0.06	1.193	17.53	45.5
MW-303	**05/13/2014 10:37**	4.64	14.52	-83.0	4.62	0.05	1.025	17.32	21.9
MW-303	**07/30/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	**07/30/2014 09:25**	3.15	4.32	-98.0	5.34	0.05	1.081	21.64	6.6
MW-303	**07/30/2014 10:14**	2.50	11.91	-123.0	4.96	0.04	0.798	17.79	229.6
MW-303	**07/31/2014 09:40**	2.04	11.54	-78.0	5.18	0.04	0.755	15.32	10.3
MW-303	**10/21/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	**10/21/2014 08:32**	2.61	3.51	263.0	5.43	0.05	1.080	18.24	6.1
MW-303	**10/21/2014 09:22**	3.57	10.84	169.0	5.49	0.05	1.096	18.20	2.4
MW-303	**10/22/2014 00:00**	NM	10.93	NM	NM	NM	NM	NM	NM
MW-303	**03/18/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	**03/18/2015 09:18**	1.73	4.34	4.0	4.99	0.06	1.170	8.07	3.7
MW-303	**03/18/2015 10:06**	2.36	15.06	28.0	5.58	0.06	1.201	12.60	516.3
MW-303	**03/19/2015 00:00**	NM	14.12	NM	NM	NM	NM	NM	NM

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-303	05/22/2015 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	05/22/2015 09:47	1.56	12.97	325.0	4.14	0.10	1.922	13.49	8.7
MW-303	05/22/2015 10:50	4.00	12.25	260.0	4.83	0.09	1.798	13.30	125.3
MW-303	09/29/2015 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	09/29/2015 13:49	4.22	13.07	214.0	6.20	0.07	1.381	19.02	4.6
MW-303	09/29/2015 14:34	0.00	12.29	214.0	5.01	0.07	1.369	17.19	9.7
MW-303	11/12/2015 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	11/12/2015 11:40	3.88	13.29	495.0	5.46	0.06	1.268	17.92	8.5
MW-303	11/12/2015 15:14	8.38	13.82	67.0	5.80	0.14	2.596	18.21	13.1
MW-303	02/25/2016 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	02/25/2016 11:33	2.24	13.57	121.0	4.56	0.11	2.080	15.34	8.5
MW-303	02/25/2016 14:27	2.03	14.23	36.0	4.55	0.07	1.347	14.29	13.8
MW-303	04/21/2016 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	04/21/2016 11:52	4.43	14.93	300.0	3.99	0.07	1.434	14.89	10.6
MW-303	04/21/2016 14:12	4.98	15.67	82.0	5.33	0.14	2.663	14.77	187.3
MW-303	07/12/2016 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	07/12/2016 09:39	5.99	12.72	83.0	5.00	0.28	5.185	17.06	8.7
MW-303	07/12/2016 09:41	4.07	12.14	223.0	4.80	0.08	1.650	15.18	2.5
MW-303	01/05/2017 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	01/05/2017 10:50	NM	12.85	27.0	4.14	0.06	1.107	16.77	21.7
MW-303	01/05/2017 13:16	5.87	13.40	45.0	6.55	0.23	4.327	16.48	19.7
MW-303	04/13/2017 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	04/13/2017 10:47	NM	11.18	NM	NM	0.06	1.265	NM	NM
MW-303	04/13/2017 13:45	NM	4.93	NM	NM	0.08	1.651	NM	NM
MW-303	04/13/2017 14:34	NM	11.57	NM	NM	0.08	1.660	NM	NM
MW-303	05/04/2017 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	05/04/2017 09:15	NM	14.56	NM	NM	0.07	1.322	NM	NM
MW-303	05/04/2017 09:16	NM	15.38	NM	NM	0.08	1.660	NM	NM
MW-303	07/14/2017 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	07/14/2017 10:47	2.02	12.38	228.0	6.00	1.10	18.510	15.88	1.7
MW-303	07/14/2017 12:40	2.17	3.14	249.0	5.64	0.18	2.823	25.57	1.5
MW-303	07/14/2017 13:24	3.71	13.13	239.0	7.69	0.23	4.295	17.19	2.0
MW-303	10/04/2017 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	10/04/2017 10:58	2.42	9.75	192.0	5.36	0.06	1.223	19.59	7.0
MW-303	10/04/2017 12:57	0.55	3.42	184.0	5.46	0.34	6.202	22.93	7.6
MW-303	10/04/2017 13:49	4.39	10.15	181.0	7.03	0.08	1.497	21.82	6.7
MW-303	10/06/2017 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	10/06/2017 12:00	3.72	13.65	30.0	5.58	0.06	1.226	17.82	7.9
MW-303	10/06/2017 13:31	2.28	16.71	-19.0	7.39	0.17	3.286	18.27	244.9
MW-303	01/09/2018 00:00	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	01/09/2018 11:26	3.92	14.14	241.0	4.88	0.05	1.086	17.31	10.5
MW-303	01/09/2018 13:01	4.28	3.88	272.0	7.73	0.07	1.401	11.36	24.6
MW-303	01/09/2018 13:03	7.48	NM	268.0	7.42	0.08	1.481	11.90	11.9
MW-303	01/09/2018 13:05	9.27	NM	268.0	7.11	0.08	1.503	12.90	8.4
MW-303	01/09/2018 13:08	4.03	NM	266.0	6.86	0.08	1.559	12.97	8.4
MW-303	01/09/2018 13:10	3.22	NM	266.0	6.61	0.08	1.591	13.03	7.8
MW-303	01/09/2018 13:13	2.52	NM	266.0	6.38	0.08	1.610	13.17	7.2
MW-303	01/09/2018 13:15	2.18	NM	265.0	6.16	0.08	1.616	13.36	7.4
MW-303	01/09/2018 13:17	1.99	NM	265.0	5.98	0.08	1.631	13.28	4.6
MW-303	01/09/2018 13:20	1.92	NM	265.0	5.80	0.08	1.650	13.14	6.3
MW-303	01/09/2018 13:22	1.85	NM	265.0	5.64	0.08	1.657	13.23	6.0
MW-303	01/09/2018 13:24	1.73	NM	265.0	5.52	0.09	1.683	12.84	7.9
MW-303	01/09/2018 13:27	1.63	NM	264.0	5.42	0.09	1.702	12.69	6.0
MW-303	01/09/2018 13:29	1.58	NM	264.0	5.32	0.09	1.711	12.62	5.7
MW-303	01/09/2018 13:31	1.61	NM	263.0	5.25	0.09	1.727	12.43	6.4
MW-303	01/09/2018 13:34	1.61	NM	263.0	5.18	0.09	1.742	12.22	6.4
MW-303	01/09/2018 13:36	1.62	NM	262.0	5.13	0.09	1.742	12.29	6.2
MW-303	01/09/2018 13:38	1.62	4.37	261.0	5.08	0.09	1.750	12.19	6.8
MW-303	01/09/2018 13:39	1.62	4.37	261.0	5.08	0.09	1.757	12.05	6.8
MW-303	01/09/2018 14:27	4.10	15.19	263.0	7.36	0.07	1.318	15.79	20.2
MW-303	04/03/2018 12:18	8.65	4.67	244.0	6.97	0.06	1.257	11.85	2.6
MW-303	04/03/2018 12:20	5.54	NM	289.0	6.28	0.06	1.274	11.90	2.5
MW-303	04/03/2018 12:23	5.22	NM	317.0	5.85	0.06	1.265	12.00	2.2
MW-303	04/03/2018 12:25	5.18	NM	338.0	5.52	0.06	1.268	11.90	2.3
MW-303	04/03/2018 12:27	5.08	NM	354.0	5.28	0.06	1.268	12.03	2.4
MW-303	04/03/2018 12:29	5.02	NM	367.0	5.09	0.06	1.267	12.07	2.7
MW-303	04/03/2018 12:31	5.03	NM	378.0	4.93	0.06	1.268	11.97	2.3
MW-303	04/03/2018 12:33	5.08	NM	385.0	4.82	0.06	1.264	11.96	2.7
MW-303	04/03/2018 12:36	5.04	NM	387.0	4.79	0.06	1.280	11.62	2.8
MW-303	04/03/2018 12:38	5.05	NM	387.0	4.75	0.06	1.252	11.32	2.5
MW-303	04/03/2018 12:40	5.05	NM	389.0	4.67	0.06	1.260	11.23	2.7

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-303	**04/03/2018 12:42**	5.02	NM	393.0	4.57	0.06	1.258	11.31	2.6
MW-303	**04/03/2018 12:44**	5.02	NM	398.0	4.51	0.06	1.264	11.22	3.0
MW-303	**04/03/2018 12:46**	5.04	NM	401.0	4.46	0.06	1.254	11.18	2.6
MW-303	**04/03/2018 12:49**	5.01	NM	404.0	4.42	0.06	1.257	11.20	2.7
MW-303	**04/03/2018 12:51**	4.93	5.27	405.0	4.40	0.06	1.262	11.40	2.6
MW-303	**04/04/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	**04/04/2018 10:58**	3.03	13.12	276.0	0.00	0.06	1.159	15.03	9.0
MW-303	**04/04/2018 12:51**	4.93	5.27	405.0	440.00	0.06	1.266	11.28	2.6
MW-303	**04/04/2018 13:37**	6.71	14.64	243.0	6.97	0.06	1.234	14.14	11.1
MW-303	**07/10/2018 10:36**	2.39	NM	38.0	6.15	0.06	1.242	32.84	5.3
MW-303	**07/10/2018 10:38**	2.13	NM	25.0	5.51	0.06	1.277	27.83	4.3
MW-303	**07/10/2018 10:41**	1.95	NM	24.0	5.17	0.06	1.278	27.15	5.3
MW-303	**07/10/2018 10:43**	1.88	NM	21.0	4.98	0.06	1.277	26.13	5.2
MW-303	**07/10/2018 10:45**	1.78	NM	18.0	4.88	0.06	1.271	25.53	5.3
MW-303	**07/10/2018 10:48**	1.73	NM	7.0	4.88	0.07	1.282	25.06	5.0
MW-303	**07/10/2018 10:50**	1.72	NM	8.0	4.83	0.06	1.274	25.31	5.1
MW-303	**07/10/2018 10:52**	1.69	NM	10.0	4.77	0.06	1.265	25.29	5.5
MW-303	**07/11/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	**07/11/2018 09:35**	4.92	10.36	252.0	5.32	0.06	1.208	17.38	3.7
MW-303	**07/11/2018 10:52**	1.69	3.06	10.0	4.77	0.06	1.260	25.47	5.5
MW-303	**07/11/2018 11:41**	8.70	10.98	1.0	6.01	0.06	1.248	19.60	7.0
MW-303	**11/19/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-303	**11/19/2018 11:10**	5.10	3.57	173.9	5.55	0.42	0.841	17.39	7.9
MW-303	**11/19/2018 12:35**	0.31	8.72	157.9	5.63	0.45	0.912	16.68	6.5
MW-303	**11/19/2018 12:50**	3.42	8.75	124.5	5.64	0.45	0.909	17.51	5.8
MW-303	**01/23/2019 10:05**	1.15	NM	287.4	4.93	NM	1.861	11.44	3.0
MW-303	**01/23/2019 12:15**	1.14	10.82	176.8	4.76	0.96	1.873	13.69	8.2
MW-303	**04/18/2019 09:15**	10.14	NM	186.4	4.68	NM	1.001	13.64	0.8
MW-303	**04/18/2019 11:13**	1.13	12.05	227.7	4.48	0.50	1.000	13.74	2.7
MW-303	**07/18/2019 10:05**	3.05	1.70	160.0	5.93	NM	1.096	20.35	2.5
MW-303	**07/18/2019 10:10**	2.39	1.83	191.9	5.60	NM	1.101	21.34	1.3
MW-303	**07/18/2019 10:15**	2.05	1.87	210.4	5.55	NM	1.101	20.97	0.7
MW-303	**07/18/2019 10:20**	1.81	1.91	218.4	5.53	NM	1.096	21.08	0.9
MW-303	**07/18/2019 10:25**	1.66	1.96	221.6	5.52	NM	1.095	21.03	1.4
MW-303	**07/18/2019 10:30**	1.56	2.00	222.8	5.51	NM	1.091	21.07	1.7
MW-303	**07/18/2019 10:35**	1.49	2.06	225.0	5.49	NM	1.087	21.10	1.5
MW-303	**07/18/2019 10:40**	1.43	2.14	226.3	5.48	NM	1.088	21.06	1.7
MW-303	**07/18/2019 10:45**	1.37	2.33	228.2	5.46	NM	1.083	20.98	1.8
MW-303	**07/18/2019 10:50**	1.32	2.39	229.2	5.45	NM	1.083	20.76	0.9
MW-303	**07/18/2019 13:00**	1.32	NM	229.2	5.45	NM	1.083	20.76	0.9
MW-303	**07/18/2019 15:28**	1.34	9.14	199.4	5.36	0.49	0.996	21.54	2.8
MW-303	**07/18/2019 15:40**	1.60	9.36	210.4	5.23	0.50	1.004	20.87	2.5
MW-303	**10/17/2019 11:22**	2.10	2.55	146.5	5.45	NM	0.417	20.44	13.9
MW-303	**10/17/2019 11:27**	1.06	2.78	172.6	5.27	NM	0.415	21.49	3.5
MW-303	**10/17/2019 11:32**	0.74	3.03	193.0	5.20	NM	0.413	21.69	1.8
MW-303	**10/17/2019 11:37**	0.62	3.20	209.1	5.17	NM	0.410	21.86	1.6
MW-303	**10/17/2019 11:42**	0.64	3.30	220.9	5.15	NM	0.405	21.65	2.1
MW-303	**10/17/2019 11:47**	0.74	3.40	226.0	5.27	NM	0.384	21.99	1.5
MW-303	**10/17/2019 11:52**	0.88	3.50	224.4	5.42	NM	0.372	22.13	1.4
MW-303	**10/17/2019 11:57**	1.00	3.58	227.6	5.51	NM	0.326	21.85	1.3
MW-303	**10/17/2019 12:02**	1.02	3.66	231.6	5.52	NM	0.322	21.75	1.4
MW-303	**10/17/2019 12:07**	1.09	3.73	234.2	5.53	NM	0.321	21.62	1.5
MW-303	**10/17/2019 14:55**	0.48	15.56	122.9	5.44	0.21	0.437	19.16	3.7
MW-303	**10/17/2019 15:10**	0.67	16.18	115.6	5.53	0.21	0.440	18.90	13.7
MW-303	**01/13/2020 08:55**	4.18	5.65	209.7	5.12	NM	0.844	12.96	48.7
MW-303	**01/13/2020 09:00**	1.60	5.80	231.1	4.91	NM	0.707	13.62	29.3
MW-303	**01/13/2020 09:05**	1.69	5.89	242.0	4.90	NM	0.681	13.89	22.5
MW-303	**01/13/2020 09:10**	1.48	5.99	251.2	4.80	NM	0.674	13.96	17.0
MW-303	**01/13/2020 09:15**	1.26	6.14	261.4	4.89	NM	0.673	14.05	15.6
MW-303	**01/13/2020 09:20**	1.21	6.25	270.1	4.89	NM	0.674	14.17	13.5
MW-303	**01/13/2020 09:25**	1.18	6.38	279.2	4.90	NM	0.675	14.32	12.7
MW-303	**01/13/2020 09:30**	1.22	6.55	287.8	4.91	NM	0.678	14.30	11.1
MW-303	**01/13/2020 09:35**	1.19	6.69	294.7	4.91	NM	0.684	14.37	10.1
MW-303	**01/13/2020 09:40**	1.08	6.80	300.8	4.92	NM	0.683	14.37	9.3
MW-303	**01/13/2020 11:10**	2.13	15.75	203.5	5.08	0.27	0.545	16.84	7.4
MW-303	**01/13/2020 11:25**	2.44	16.10	190.0	5.18	0.27	0.545	14.10	168.5
MW-303	**04/14/2020 09:00**	1.18	NM	188.1	5.08	NM	2.622	14.46	9.1
MW-303	**04/14/2020 10:30**	1.20	16.42	213.6	4.54	1.56	2.970	15.19	9.4
MW-304	**11/02/2009 13:32**	1.42	7.06	-40.0	6.00	0.00	0.960	16.20	9.2
MW-304	**11/02/2009 13:34**	1.15	7.06	-45.0	6.05	0.00	0.980	16.20	11.2
MW-304	**11/02/2009 13:36**	1.01	7.06	-47.0	6.10	0.00	0.990	16.20	11.1

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-304	**11/02/2009 13:38**	1.01	7.10	-54.0	6.16	0.00	0.780	16.20	11.0
MW-304	**11/02/2009 13:40**	1.02	7.10	-59.0	6.20	0.00	0.720	16.00	11.7
MW-304	**11/02/2009 13:42**	1.02	7.15	-59.0	6.22	0.00	0.740	16.00	12.7
MW-304	**11/02/2009 13:44**	1.03	7.15	-60.0	6.22	0.00	0.680	16.10	11.7
MW-304	**11/02/2009 13:46**	1.05	7.22	-60.0	6.21	0.00	0.660	16.20	13.6
MW-304	**11/02/2009 13:48**	1.04	7.22	-62.0	6.23	0.00	0.640	16.00	12.9
MW-304	**11/02/2009 13:50**	1.09	7.27	-62.0	6.22	0.00	0.590	16.00	14.5
MW-304	**11/02/2009 13:52**	1.08	7.27	-63.0	6.23	0.00	0.590	16.10	14.1
MW-304	**11/02/2009 13:54**	1.07	7.27	-63.0	6.23	0.00	0.590	16.10	13.5
MW-304	**11/02/2009 13:56**	1.06	7.27	-64.0	6.23	0.00	0.590	16.10	13.6
MW-304	**05/05/2010 09:26**	2.53	4.92	65.0	6.33	0.00	0.699	NM	107.0
MW-304	**05/05/2010 09:28**	1.26	4.92	-23.0	6.42	0.00	0.679	NM	117.0
MW-304	**05/05/2010 09:30**	0.66	4.95	-89.0	6.52	0.00	0.661	NM	109.0
MW-304	**05/05/2010 09:32**	0.60	4.95	-111.0	6.57	0.00	0.662	NM	100.0
MW-304	**05/05/2010 09:34**	0.60	4.99	-122.0	6.59	0.00	0.664	NM	87.6
MW-304	**05/05/2010 09:36**	0.57	4.99	-133.0	6.61	0.00	0.667	NM	71.2
MW-304	**05/05/2010 09:38**	0.56	5.02	-134.0	6.02	0.00	0.666	NM	68.2
MW-304	**05/05/2010 09:40**	0.55	5.02	-137.0	6.62	0.00	0.667	NM	57.0
MW-304	**05/05/2010 09:42**	0.53	5.04	-141.0	6.62	0.00	0.669	NM	52.5
MW-304	**05/05/2010 09:44**	0.50	5.04	143.0	6.63	0.00	0.671	NM	51.4
MW-304	**05/05/2010 09:46**	0.50	5.07	-145.0	6.64	0.00	0.675	NM	52.3
MW-304	**05/05/2010 09:48**	0.50	5.07	-146.0	6.64	0.00	0.676	NM	52.8
MW-304	**05/05/2010 09:50**	0.50	5.10	-146.0	6.63	0.00	0.675	NM	52.9
MW-304	**08/17/2010 11:10**	1.85	5.28	-145.0	10.10	0.00	1.000	NM	5.0
MW-304	**08/18/2010 08:40**	2.41	8.68	157.0	6.00	0.00	0.595	NM	155.0
MW-304	**10/12/2010 10:09**	4.22	5.00	-47.0	6.15	0.00	0.680	19.30	64.8
MW-304	**10/12/2010 10:11**	0.80	5.00	-85.0	6.42	0.00	0.680	19.30	82.3
MW-304	**10/12/2010 10:13**	0.42	5.05	-99.0	6.51	0.00	0.670	19.40	73.7
MW-304	**10/12/2010 10:15**	0.21	5.05	-108.0	6.57	0.00	0.670	19.50	83.6
MW-304	**10/12/2010 10:17**	0.07	5.07	-115.0	6.62	0.00	0.670	19.50	79.7
MW-304	**10/12/2010 10:19**	0.00	5.07	-118.0	6.65	0.00	0.670	19.40	74.1
MW-304	**10/12/2010 10:21**	0.00	5.11	-120.0	6.67	0.00	0.670	19.50	85.3
MW-304	**10/12/2010 10:23**	0.00	5.11	-123.0	6.68	0.00	0.670	19.40	89.6
MW-304	**10/12/2010 10:25**	0.00	5.14	-125.0	6.69	0.00	0.670	19.40	88.3
MW-304	**10/12/2010 10:27**	0.00	5.14	-125.0	6.70	0.00	0.670	19.40	90.2
MW-304	**10/12/2010 10:29**	0.00	5.16	-126.0	6.70	0.00	0.670	19.40	79.5
MW-304	**10/12/2010 10:31**	0.00	5.16	-127.0	6.71	0.00	0.670	19.40	81.5
MW-304	**10/12/2010 10:33**	0.00	5.19	-126.0	6.71	0.00	0.670	19.40	80.3
MW-304	**10/12/2010 10:35**	0.00	0.00	0.0	0.00	0.00	0.000	0.00	0.0
MW-304	**10/12/2010 10:37**	0.00	0.00	0.0	0.00	0.00	0.000	0.00	0.0
MW-304	**10/12/2010 12:11**	NM	NM	NM	NM	NM	NM	20.40	NM
MW-304	**05/03/2011 10:42**	1.99	4.83	-37.0	6.74	0.03	0.516	16.95	352.6
MW-304	**05/03/2011 10:44**	1.48	NM	-61.0	6.86	0.03	0.489	14.59	262.3
MW-304	**05/03/2011 10:46**	1.07	NM	-73.0	6.91	0.03	0.482	14.16	141.1
MW-304	**05/03/2011 10:48**	0.88	NM	-80.0	6.95	0.03	0.480	14.04	126.4
MW-304	**05/03/2011 10:50**	0.79	NM	-85.0	6.97	0.03	0.479	13.95	141.4
MW-304	**05/03/2011 10:52**	0.74	NM	-89.0	6.98	0.03	0.479	13.90	132.9
MW-304	**05/03/2011 10:54**	0.71	NM	-92.0	6.99	0.03	0.479	13.93	126.4
MW-304	**05/03/2011 10:56**	0.68	5.09	94.0	6.99	0.03	0.607	14.19	124.5
MW-304	**05/03/2011 15:25**	0.00	0.00	0.0	0.00	0.00	0.000	0.00	0.0
MW-304	**05/04/2011 11:48**	0.00	0.00	0.0	0.00	0.00	0.000	0.00	0.0
MW-304	**08/09/2011 09:16**	1.70	4.89	-7.0	6.93	0.03	0.599	25.37	54.3
MW-304	**08/09/2011 09:18**	0.68	NM	-33.0	6.98	0.03	0.578	24.11	39.1
MW-304	**08/09/2011 09:21**	0.39	NM	-45.0	7.00	0.03	0.580	24.28	65.5
MW-304	**08/09/2011 09:23**	0.34	NM	-53.0	7.01	0.03	0.587	24.63	38.9
MW-304	**08/09/2011 09:25**	0.32	NM	-59.0	7.01	0.03	0.598	25.03	40.2
MW-304	**08/09/2011 09:27**	0.30	NM	-65.0	7.03	0.03	0.585	24.41	36.8
MW-304	**08/09/2011 09:29**	0.19	NM	-70.0	7.05	0.03	0.583	24.46	41.4
MW-304	**08/09/2011 09:31**	0.17	NM	-74.0	7.06	0.03	0.586	24.40	41.9
MW-304	**08/09/2011 09:32**	0.17	5.07	-74.0	7.06	0.03	0.592	24.40	41.9
MW-304	**08/09/2011 09:34**	0.16	NM	-78.0	7.07	0.03	0.583	24.32	38.8
MW-304	**08/09/2011 09:36**	8.14	5.07	-70.0	7.30	0.00	0.001	26.03	2.7
MW-304	**02/07/2012 15:01**	0.75	4.98	-88.0	6.96	0.08	0.412	10.82	2.9
MW-304	**04/17/2012 15:29**	1.26	4.90	-39.0	6.61	0.03	0.615	21.62	39.0
MW-304	**04/17/2012 15:32**	1.11	NM	-63.0	6.78	0.03	0.611	14.99	19.3
MW-304	**04/17/2012 15:34**	0.70	NM	-71.0	6.84	0.03	0.611	14.31	42.6
MW-304	**04/17/2012 15:36**	0.52	NM	-76.0	6.87	0.03	0.608	14.42	34.7
MW-304	**04/17/2012 15:39**	0.47	NM	-80.0	6.89	0.03	0.608	14.16	24.4
MW-304	**04/17/2012 15:41**	0.42	NM	-83.0	6.90	0.03	0.606	14.43	25.0
MW-304	**04/17/2012 15:43**	0.40	NM	-86.0	6.91	0.03	0.604	14.53	21.8
MW-304	**04/17/2012 15:46**	0.37	NM	-88.0	6.91	0.03	0.607	14.36	21.9

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-304	**04/17/2012 15:48**	0.36	NM	-90.0	6.92	0.03	0.603	14.76	16.2
MW-304	**04/17/2012 15:50**	0.35	NM	-91.0	6.92	0.03	0.603	14.72	23.1
MW-304	**04/17/2012 15:53**	0.33	NM	-93.0	6.92	0.03	0.605	14.68	20.3
MW-304	**04/17/2012 15:55**	0.32	NM	-94.0	6.93	0.03	0.605	14.58	20.1
MW-304	**04/17/2012 15:58**	0.30	NM	-94.0	6.93	0.03	0.606	14.32	21.6
MW-304	**04/17/2012 16:00**	0.31	NM	-94.0	6.93	0.03	0.604	14.65	16.3
MW-304	**04/17/2012 16:02**	0.30	NM	-96.0	6.93	0.03	0.605	15.01	16.8
MW-304	**04/17/2012 16:05**	0.30	5.11	-97.0	6.94	0.03	0.609	14.83	17.0
MW-304	**07/23/2012 08:14**	1.07	4.90	-106.0	7.06	0.03	0.641	23.71	76.7
MW-304	**07/23/2012 08:16**	0.76	NM	-116.0	7.12	0.03	0.651	20.96	28.3
MW-304	**07/23/2012 08:18**	0.56	NM	-120.0	7.13	0.03	0.646	20.60	28.7
MW-304	**07/23/2012 08:20**	0.51	NM	-122.0	7.13	0.03	0.646	21.13	32.9
MW-304	**07/23/2012 08:23**	0.47	NM	-124.0	7.14	0.03	0.646	21.28	44.3
MW-304	**07/23/2012 08:25**	0.45	NM	-125.0	7.14	0.03	0.646	21.50	40.7
MW-304	**07/23/2012 08:27**	0.44	NM	-126.0	7.14	0.03	0.645	21.72	57.0
MW-304	**07/23/2012 08:29**	0.42	NM	-128.0	7.14	0.03	0.646	21.81	36.0
MW-304	**07/23/2012 08:31**	0.39	NM	-129.0	7.14	0.03	0.644	21.82	38.5
MW-304	**07/23/2012 08:33**	0.40	4.98	-130.0	7.13	0.03	0.645	22.03	22.0
MW-304	**10/24/2012 11:25**	6.62	NM	-129.0	6.99	0.00	0.680	18.80	133.0
MW-304	**10/24/2012 11:27**	5.93	NM	-127.0	6.98	0.00	0.690	18.70	131.0
MW-304	**10/24/2012 11:29**	5.42	NM	-126.0	6.96	0.00	0.690	18.60	112.0
MW-304	**10/24/2012 11:31**	5.20	NM	-126.0	6.99	0.00	0.690	18.60	107.0
MW-304	**10/24/2012 11:33**	5.08	NM	-125.0	6.99	0.00	0.680	18.60	94.4
MW-304	**10/24/2012 11:35**	5.00	NM	-125.0	6.99	0.00	0.680	18.60	87.7
MW-304	**10/24/2012 11:37**	4.87	NM	-124.0	6.98	0.00	0.680	18.70	86.2
MW-304	**10/24/2012 11:39**	4.82	NM	-124.0	6.99	0.00	0.680	18.70	82.3
MW-304	**10/24/2012 11:41**	4.77	5.12	-125.0	6.98	0.00	0.683	18.71	80.1
MW-304	**02/06/2013 00:00**	0.20	5.14	-279.0	6.94	0.05	962.800	9.14	10.5
MW-304	**02/06/2013 08:00**	0.20	5.14	-279.0	6.94	0.05	962.800	9.14	10.5
MW-304	**02/06/2013 11:16**	2.30	4.90	-217.0	6.73	0.05	0.987	8.69	36.3
MW-304	**02/06/2013 11:18**	1.18	NM	-251.0	6.77	0.04	0.914	8.66	17.9
MW-304	**02/06/2013 11:20**	0.87	NM	-261.0	6.81	0.04	0.902	8.73	17.4
MW-304	**02/06/2013 11:22**	0.71	NM	-264.0	6.83	0.04	0.907	8.85	27.5
MW-304	**02/06/2013 11:24**	0.62	NM	-266.0	6.85	0.04	0.910	8.84	18.8
MW-304	**02/06/2013 11:26**	0.52	NM	-269.0	6.86	0.05	0.931	8.64	13.9
MW-304	**02/06/2013 11:28**	0.44	NM	-270.0	6.87	0.04	0.911	8.84	16.9
MW-304	**02/06/2013 11:30**	0.39	NM	-272.0	6.88	0.04	0.916	8.88	14.3
MW-304	**02/06/2013 11:32**	0.40	NM	-272.0	6.89	0.05	0.937	8.93	13.0
MW-304	**02/06/2013 11:34**	0.37	NM	-273.0	6.89	0.05	0.927	8.81	14.6
MW-304	**02/06/2013 11:36**	0.32	NM	-273.0	6.90	0.05	0.941	8.89	15.4
MW-304	**02/06/2013 11:38**	0.33	NM	-274.0	6.91	0.05	0.931	8.99	11.1
MW-304	**02/06/2013 11:40**	0.32	NM	-274.0	6.91	0.05	0.935	8.90	11.4
MW-304	**02/06/2013 11:42**	0.33	NM	-274.0	6.91	0.05	0.929	9.03	15.1
MW-304	**02/06/2013 11:44**	0.30	NM	-274.0	6.92	0.05	0.930	9.22	12.5
MW-304	**02/06/2013 11:46**	0.30	NM	-274.0	6.92	0.05	0.937	9.26	23.4
MW-304	**02/06/2013 11:48**	0.26	NM	-275.0	6.92	0.05	0.930	9.29	11.7
MW-304	**02/06/2013 11:50**	0.28	NM	-277.0	6.92	0.05	0.934	9.30	11.3
MW-304	**02/06/2013 11:52**	0.24	NM	-278.0	6.92	0.05	0.934	9.04	11.0
MW-304	**02/06/2013 11:54**	0.22	NM	-279.0	6.92	0.05	0.951	9.05	12.7
MW-304	**02/06/2013 11:56**	0.22	NM	-280.0	6.93	0.05	0.932	8.93	11.1
MW-304	**02/06/2013 11:58**	0.21	NM	-279.0	6.93	0.05	0.948	9.20	10.9
MW-304	**02/06/2013 11:59**	0.21	NM	-279.0	6.93	0.05	0.955	9.21	14.3
MW-304	**02/06/2013 12:01**	0.24	NM	-279.0	6.93	0.05	0.947	9.13	21.7
MW-304	**02/06/2013 12:03**	0.20	5.14	-279.0	6.94	0.05	0.963	9.00	10.5
MW-304	**05/14/2013 15:26**	0.56	5.05	-172.0	6.90	0.05	0.975	16.35	2532.0
MW-304	**10/22/2013 14:19**	1.03	5.10	-366.0	6.98	0.09	1.808	18.56	12.8
MW-304	**03/20/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-304	**05/08/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-304	**05/08/2014 15:25**	1.32	4.92	-346.0	6.64	0.06	1.274	13.01	39.9
MW-304	**07/29/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-304	**07/29/2014 11:55**	0.29	5.24	-272.0	6.67	0.03	0.688	20.91	17.8
MW-304	**10/20/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-304	**10/20/2014 10:44**	-0.21	5.22	-144.0	6.82	0.04	0.762	17.91	16.7
MW-304	**03/20/2015 14:59**	1.14	5.37	-155.0	6.80	0.04	0.764	9.98	21.0
MW-304	**04/13/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-304	**04/13/2017 14:52**	NM	4.91	NM	NM	0.10	1.912	NM	NM
MW-304	**07/11/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-304	**07/11/2017 14:34**	0.05	5.32	-40.0	7.01	0.23	4.335	21.16	27.2
MW-304	**10/04/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-304	**10/04/2017 14:07**	0.37	5.36	55.0	6.86	0.56	9.864	21.32	19.7
MW-304	**01/10/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-304	**01/10/2018 11:23**	5.91	4.95	226.0	7.73	0.07	1.470	7.90	194.1
MW-304	**01/10/2018 11:25**	1.32	NM	101.0	7.52	0.09	1.706	9.72	211.8
MW-304	**01/10/2018 11:28**	0.72	NM	2.0	7.42	0.09	1.852	10.11	28.0
MW-304	**01/10/2018 11:30**	0.52	NM	-34.0	7.36	0.10	1.912	10.51	157.1
MW-304	**01/10/2018 11:33**	0.43	NM	-43.0	7.33	0.10	1.965	10.43	85.5
MW-304	**01/10/2018 11:35**	0.34	NM	-46.0	7.29	0.10	1.999	10.51	110.2
MW-304	**01/10/2018 11:38**	0.25	NM	-47.0	7.26	0.10	2.029	10.53	58.9
MW-304	**01/10/2018 11:41**	0.18	NM	-46.0	7.21	0.11	2.061	10.41	84.6
MW-304	**01/10/2018 11:43**	0.12	NM	-46.0	7.19	0.11	2.077	10.45	168.8
MW-304	**01/10/2018 11:46**	0.07	NM	-45.0	7.18	0.11	2.097	10.37	49.2
MW-304	**01/10/2018 11:48**	0.12	NM	-44.0	7.18	0.11	2.114	10.35	24.8
MW-304	**01/10/2018 11:51**	0.13	NM	-43.0	7.16	0.11	2.125	10.34	22.0
MW-304	**01/10/2018 11:53**	0.12	NM	-42.0	7.15	0.11	2.138	10.35	32.5
MW-304	**01/10/2018 11:56**	0.09	NM	-41.0	7.14	0.11	2.137	10.46	25.1
MW-304	**01/10/2018 11:58**	0.07	NM	-40.0	7.13	0.11	2.158	10.28	15.5
MW-304	**01/10/2018 12:01**	0.00	NM	-39.0	7.12	0.11	2.150	10.47	17.1
MW-304	**01/10/2018 12:03**	0.01	NM	-38.0	7.11	0.11	2.177	10.22	19.6
MW-304	**01/10/2018 12:06**	0.01	NM	-37.0	7.10	0.11	2.195	10.10	17.8
MW-304	**01/10/2018 12:09**	0.00	NM	-36.0	7.09	0.11	2.202	10.10	17.1
MW-304	**01/10/2018 12:11**	0.00	5.63	-35.0	7.08	0.11	2.206	10.10	17.0
MW-304	**04/04/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-304	**04/04/2018 13:37**	4.61	4.59	168.0	7.34	0.10	1.887	9.96	125.6
MW-304	**04/04/2018 13:39**	3.53	NM	165.0	7.11	0.10	1.884	9.84	38.2
MW-304	**04/04/2018 13:42**	2.78	NM	163.0	6.97	0.10	1.900	9.77	29.2
MW-304	**04/04/2018 13:44**	2.51	NM	160.0	6.87	0.10	1.920	9.72	28.0
MW-304	**04/04/2018 13:46**	2.47	NM	158.0	6.79	0.10	1.921	9.68	29.9
MW-304	**04/04/2018 13:48**	2.39	NM	157.0	6.72	0.10	1.925	9.66	24.7
MW-304	**04/04/2018 13:50**	2.35	NM	155.0	6.67	0.10	1.928	9.62	24.7
MW-304	**04/04/2018 13:52**	2.29	NM	154.0	6.62	0.10	1.927	9.63	36.6
MW-304	**04/04/2018 13:55**	2.36	NM	153.0	6.58	0.10	1.937	9.63	134.4
MW-304	**04/04/2018 13:57**	2.36	NM	152.0	6.55	0.10	1.928	9.59	23.1
MW-304	**04/04/2018 13:59**	2.31	NM	151.0	6.51	0.10	1.930	9.60	23.9
MW-304	**04/04/2018 14:01**	2.33	5.13	150.0	6.49	0.10	1.944	9.48	22.9
MW-304	**08/06/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-304	**08/06/2018 11:12**	1.09	5.66	-82.0	6.73	0.07	1.357	23.68	9.3
MW-304	**04/12/2019 13:10**	1.12	NM	-63.6	6.80	NM	1.463	11.51	2.9
MW-304	**07/15/2019 10:05**	1.88	4.70	-76.1	6.69	NM	1.371	19.14	14.5
MW-304	**07/15/2019 10:10**	0.79	4.82	-91.8	6.79	NM	1.410	19.31	23.5
MW-304	**07/15/2019 10:15**	0.47	4.88	-96.9	6.78	NM	1.421	19.28	12.5
MW-304	**07/15/2019 10:20**	0.38	4.93	-98.6	6.71	NM	1.423	19.38	8.9
MW-304	**07/15/2019 10:25**	0.33	4.97	-100.0	6.67	NM	1.425	19.59	9.2
MW-304	**07/15/2019 10:30**	0.31	5.04	-101.5	6.66	NM	1.420	19.71	9.1
MW-304	**07/15/2019 10:35**	0.27	5.08	-103.1	6.67	NM	1.420	19.59	18.8
MW-304	**07/15/2019 10:40**	0.26	5.11	-105.1	6.69	NM	1.420	19.86	14.2
MW-304	**07/15/2019 10:45**	0.25	5.15	-105.5	6.69	NM	1.420	19.89	11.8
MW-304	**07/15/2019 10:50**	0.25	5.17	-104.9	6.70	NM	1.421	20.04	10.7
MW-304	**07/15/2019 14:10**	0.25	NM	-104.9	6.70	NM	1.421	20.04	10.7
MW-304	**10/16/2019 12:25**	3.30	5.12	-65.8	6.39	NM	0.865	19.21	10.7
MW-304	**10/16/2019 12:30**	1.22	5.40	-102.1	6.60	NM	0.724	19.07	4.6
MW-304	**10/16/2019 12:35**	0.68	5.50	-113.7	6.66	NM	0.680	19.14	3.8
MW-304	**10/16/2019 12:40**	0.53	5.73	-118.1	6.68	NM	0.670	19.22	3.9
MW-304	**10/16/2019 12:45**	0.40	5.90	-120.4	6.69	NM	0.665	19.27	4.2
MW-304	**10/16/2019 12:50**	0.41	6.01	-121.4	6.69	NM	0.663	19.28	4.6
MW-304	**10/16/2019 12:55**	0.38	6.11	-122.3	6.69	NM	0.662	19.30	5.9
MW-304	**10/16/2019 13:00**	0.31	6.26	-122.4	6.68	NM	0.661	19.33	7.9
MW-304	**10/16/2019 13:05**	0.31	6.42	-121.7	6.68	NM	0.661	19.32	9.0
MW-304	**10/16/2019 13:10**	0.31	6.59	-121.0	6.67	NM	0.661	19.31	9.7
MW-304	**01/15/2020 13:45**	2.28	5.13	-65.3	6.54	NM	0.582	12.05	27.0
MW-304	**01/15/2020 13:50**	0.82	5.40	-66.9	6.51	NM	0.581	11.92	9.3
MW-304	**01/15/2020 13:55**	0.69	5.61	-67.7	6.50	NM	0.582	11.84	8.1
MW-304	**01/15/2020 14:00**	0.56	5.66	-66.0	6.50	NM	0.582	11.74	8.8
MW-304	**01/15/2020 14:05**	0.54	5.70	-63.2	6.50	NM	0.582	11.69	9.4
MW-304	**01/15/2020 14:10**	0.52	5.78	-59.8	6.50	NM	0.582	11.53	9.7
MW-304	**01/15/2020 14:15**	0.52	5.82	-56.8	6.50	NM	0.582	11.48	9.1
MW-304	**04/15/2020 11:20**	0.29	NM	-41.2	6.31	NM	1.174	12.46	117.3
MW-40R	**05/04/2010 10:59**	6.82	14.29	356.0	4.29	0.10	2.070	NM	192.0
MW-40R	**05/05/2010 09:45**	0.64	12.73	253.0	4.02	0.10	2.100	NM	98.6
MW-40R	**10/11/2010 11:08**	0.26	12.44	91.0	4.77	0.10	2.000	18.30	11.8
MW-40R	**10/12/2010 08:35**	0.00	11.22	141.0	4.75	0.10	2.060	16.80	6.9
MW-40R	**05/04/2011 11:24**	2.75	15.77	0.2	34.60	144.00	12.430	4.78	2.1
MW-40R	**05/05/2011 10:30**	2.57	14.27	0.2	15.20	172.00	12.570	4.78	2.5

Table 6b

Field Parameter Results in Groundwater - Amboy Field

Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-40R	**05/05/2011 11:24**	2.08	15.77	144.0	12.43	0.19	2.748	12.43	34.6
MW-40R	**05/06/2011 10:30**	2.48	14.27	172.0	4.78	0.18	2.571	12.57	15.2
MW-40R	**08/11/2011 10:32**	0.00	12.47	2.8	4.32	0.20	3.090	14.60	10.3
MW-40R	**08/11/2011 11:20**	1.60	13.92	205.0	4.55	0.12	2.328	16.10	12.6
MW-40R	**02/08/2012 08:52**	NM	8.10	NM	NM	NM	NM	NM	NM
MW-40R	**02/08/2012 11:07**	-0.16	16.73	88.0	5.12	0.11	1.768	14.56	34.3
MW-40R	**02/09/2012 09:47**	3.35	15.72	376.0	3.84	0.11	1.722	14.70	24.9
MW-40R	**05/30/2012 10:25**	3.15	15.81	375.0	3.35	0.10	2.290	13.47	19.4
MW-40R	**05/30/2012 11:06**	6.15	17.02	403.0	3.82	0.11	2.217	15.62	12.1
MW-40R	**07/17/2012 12:11**	2.34	10.31	263.0	4.62	0.10	1.875	21.90	18.2
MW-40R	**07/18/2012 09:30**	0.27	9.03	361.0	3.81	0.09	1.681	16.13	4.0
MW-40R	**10/23/2012 09:51**	4.23	11.23	281.0	3.55	0.10	2.370	17.65	4.0
MW-40R	**10/23/2012 11:58**	6.53	11.85	217.0	3.93	0.10	2.050	18.04	33.8
MW-40R	**10/23/2012 12:00**	NM	6.41	NM	NM	NM	NM	NM	NM
MW-40R	**02/11/2013 00:00**	NM	7.28	NM	NM	NM	NM	NM	NM
MW-40R	**02/11/2013 09:48**	1.44	13.21	159.0	3.55	0.21	3.882	14.17	12.1
MW-40R	**02/12/2013 09:26**	0.50	12.13	218.0	3.61	0.22	4.040	15.01	5.4
MW-40R	**05/15/2013 00:00**	NM	7.37	NM	NM	NM	NM	NM	NM
MW-40R	**05/15/2013 12:23**	0.70	12.81	227.0	3.32	0.23	4.281	12.86	4.9
MW-40R	**05/16/2013 10:44**	0.22	11.89	276.0	3.38	0.19	3.523	12.98	3.7
MW-40R	**10/21/2013 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**10/21/2013 12:12**	1.31	12.26	-21.0	3.92	0.23	4.360	18.58	5.8
MW-40R	**10/22/2013 10:21**	0.60	11.20	-67.0	3.81	0.15	2.892	18.22	9.8
MW-40R	**03/25/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**03/25/2014 09:49**	3.83	11.42	35.0	3.38	NM	6.063	11.11	2.9
MW-40R	**03/25/2014 10:17**	1.17	11.44	296.0	3.32	NM	6.225	11.66	6.9
MW-40R	**05/12/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**05/12/2014 12:25**	3.16	10.34	-37.0	4.05	NM	2.356	15.93	12.7
MW-40R	**05/13/2014 09:49**	4.36	15.60	-28.0	4.07	NM	1.898	14.52	20.3
MW-40R	**07/30/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**07/30/2014 15:38**	1.36	14.06	290.0	3.58	0.10	1.921	16.05	11.1
MW-40R	**07/31/2014 11:54**	0.45	11.36	359.0	3.74	0.09	1.848	14.03	4.0
MW-40R	**10/21/2014 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**10/21/2014 12:15**	1.04	16.92	288.0	3.44	0.07	1.389	17.33	1.3
MW-40R	**10/22/2014 00:00**	NM	10.13	NM	NM	NM	NM	NM	NM
MW-40R	**03/19/2015 00:00**	NM	15.14	NM	NM	NM	NM	NM	NM
MW-40R	**03/19/2015 14:42**	3.98	16.33	132.0	4.28	NM	5.185	12.53	7.7
MW-40R	**05/22/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**05/22/2015 11:32**	-1.60	11.83	357.0	3.28	0.24	4.419	12.63	135.9
MW-40R	**05/22/2015 13:54**	1.38	13.24	223.0	3.23	0.24	4.557	12.28	79.8
MW-40R	**09/29/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**09/29/2015 09:46**	4.31	14.73	162.0	5.73	0.15	2.845	17.82	8.0
MW-40R	**09/29/2015 10:37**	NM	13.02	244.0	4.17	0.15	2.919	15.64	5.4
MW-40R	**11/12/2015 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**11/12/2015 09:37**	1.74	16.37	91.0	5.11	0.35	6.285	17.92	13.8
MW-40R	**11/12/2015 10:00**	4.35	14.87	500.0	4.15	0.14	2.743	17.01	6.3
MW-40R	**02/25/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**02/25/2016 09:59**	0.18	12.30	215.0	3.09	1.01	17.140	15.02	3.3
MW-40R	**02/25/2016 12:02**	2.35	13.88	183.0	3.06	0.25	4.591	13.66	6.8
MW-40R	**04/21/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**04/21/2016 09:20**	1.91	12.44	137.0	3.31	0.32	5.912	13.18	44.8
MW-40R	**04/21/2016 09:53**	-0.48	11.28	427.0	2.83	0.25	4.583	13.59	0.3
MW-40R	**07/06/2016 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**07/06/2016 09:31**	5.20	13.76	100.0	3.60	1.32	21.910	15.70	11.9
MW-40R	**07/06/2016 12:25**	2.86	12.06	451.0	3.02	0.21	3.943	15.22	2.1
MW-40R	**01/05/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**01/05/2017 09:09**	1.23	14.79	280.0	3.13	0.27	4.984	16.89	15.3
MW-40R	**01/05/2017 09:12**	NM	13.23	244.0	3.06	0.25	4.712	16.73	0.1
MW-40R	**04/13/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**04/13/2017 09:20**	NM	13.06	NM	NM	0.34	6.188	NM	NM
MW-40R	**04/13/2017 09:36**	NM	14.28	NM	NM	0.36	6.539	NM	NM
MW-40R	**05/04/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**05/04/2017 10:47**	NM	11.96	NM	NM	0.31	5.634	NM	NM
MW-40R	**05/04/2017 11:09**	NM	13.02	NM	NM	0.31	5.694	NM	NM
MW-40R	**07/14/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**07/14/2017 09:01**	1.10	13.00	312.0	4.22	0.31	5.651	15.79	0.6
MW-40R	**07/14/2017 09:15**	0.05	11.60	249.0	3.34	2.17	34.410	14.96	0.6
MW-40R	**08/30/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**08/30/2017 09:42**	0.40	10.28	392.0	3.19	0.23	4.199	18.04	4.0
MW-40R	**08/30/2017 10:09**	1.82	11.47	281.0	3.12	0.36	6.489	18.84	5.0
MW-40R	**10/04/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM

Table 6b

Field Parameter Results in Groundwater - Amboy Field

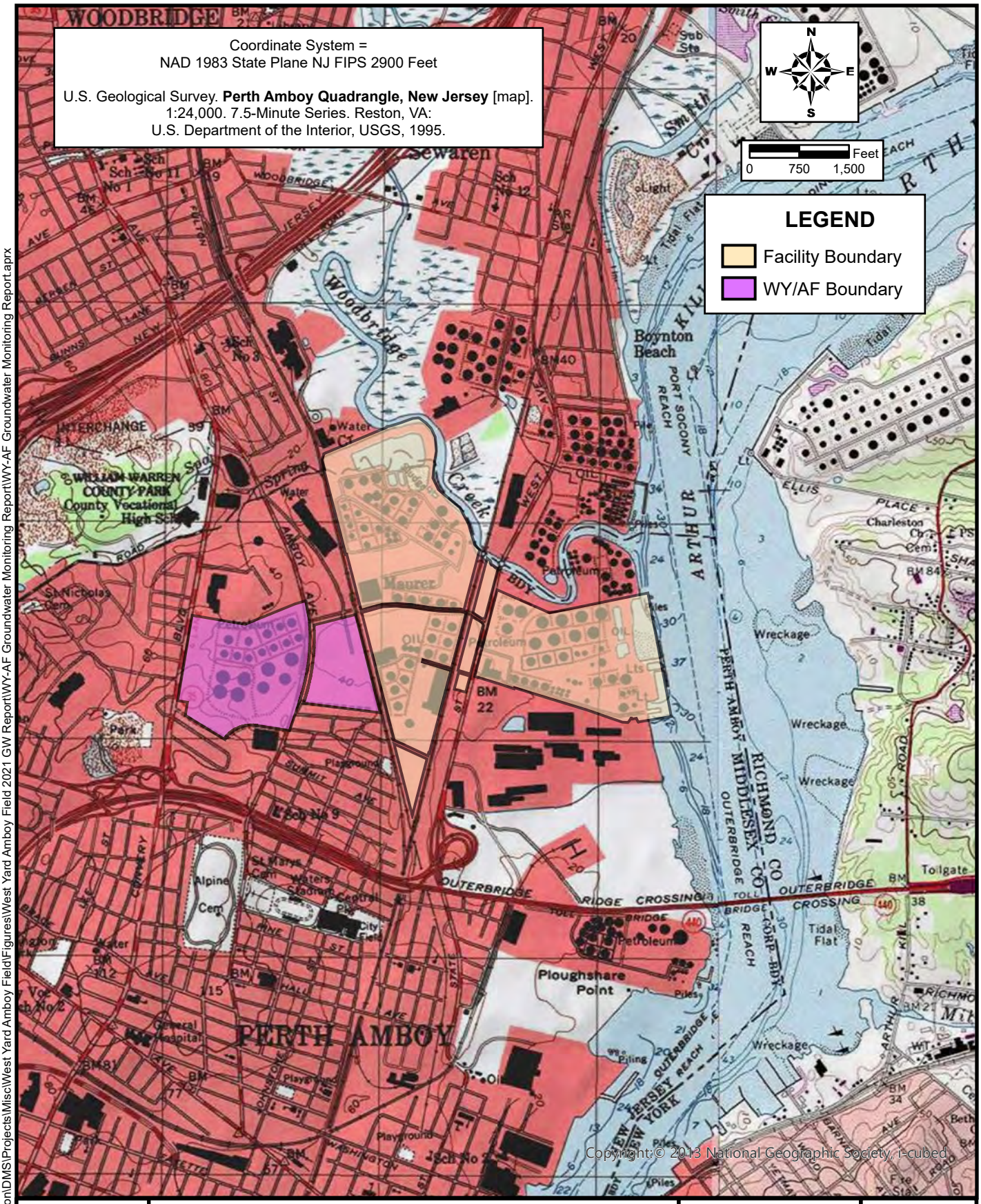
Groundwater Monitoring Report

West Yard/Amboy Field

Former Chevron Perth Amboy Facility

Location ID	Date and Time	DO	DTW	ORP	pH	Salinity	Specific Conductivity	Temperature	Turbidity
	Units	mg/L	feet	mV	SU	%	mS/cm	deg C	NTU
MW-40R	**10/04/2017 09:10**	3.18	12.78	326.0	3.49	0.21	3.942	17.93	5.8
MW-40R	**10/04/2017 09:36**	4.98	13.88	175.0	6.02	0.52	9.112	18.13	5.6
MW-40R	**10/06/2017 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**10/06/2017 09:11**	1.82	12.64	76.0	5.86	0.27	4.965	19.65	15.2
MW-40R	**10/06/2017 09:27**	1.82	11.39	361.0	3.09	0.18	3.485	18.83	2.3
MW-40R	**01/10/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**01/10/2018 09:32**	1.54	13.58	330.0	3.10	0.32	5.785	16.51	4.0
MW-40R	**01/10/2018 09:40**	5.35	13.63	142.0	5.03	0.21	3.942	15.89	6.7
MW-40R	**04/04/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**04/04/2018 09:24**	7.34	14.62	360.0	5.15	0.25	4.583	13.36	35.5
MW-40R	**04/04/2018 09:39**	2.64	13.47	452.0	NM	0.24	4.446	13.70	7.6
MW-40R	**07/11/2018 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**07/11/2018 10:23**	1.36	11.20	402.0	3.64	0.19	3.620	14.91	2.1
MW-40R	**07/11/2018 14:03**	2.84	12.13	81.0	3.76	0.20	3.705	17.82	5.8
MW-40R	**01/25/2019 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**01/25/2019 11:30**	3.16	11.50	411.2	2.92	1.40	2.686	11.74	0.2
MW-40R	**04/19/2019 09:58**	2.39	15.46	396.7	3.09	1.51	2.881	15.02	1.2
MW-40R	**07/19/2019 09:40**	3.42	5.87	366.4	3.46	NM	2.464	20.45	1.2
MW-40R	**07/19/2019 11:16**	3.51	10.81	436.3	2.97	2.57	4.786	20.05	2.5
MW-40R	**07/19/2019 11:30**	4.10	10.95	430.4	2.99	2.58	4.792	19.01	1.7
MW-40R	**10/16/2019 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**10/16/2019 10:10**	1.09	6.34	417.2	2.94	NM	2.168	19.61	1.0
MW-40R	**10/16/2019 11:40**	0.37	15.11	269.6	3.57	1.05	2.055	17.80	2.3
MW-40R	**10/16/2019 11:50**	0.38	15.30	264.7	3.62	1.06	2.057	17.96	0.4
MW-40R	**01/20/2020 00:00**	NM	NM	NM	NM	NM	NM	NM	NM
MW-40R	**01/20/2020 10:10**	0.80	6.74	407.3	3.03	NM	2.802	14.25	2.6
MW-40R	**01/20/2020 11:35**	0.39	13.01	354.8	3.12	1.47	2.806	14.40	1.9
MW-40R	**01/20/2020 11:45**	0.32	14.97	353.2	3.12	1.47	2.823	14.39	4.6
MW-40R	**04/20/2020 13:53**	10.42	12.54	373.5	3.13	2.77	5.123	14.69	1.1

FIGURES



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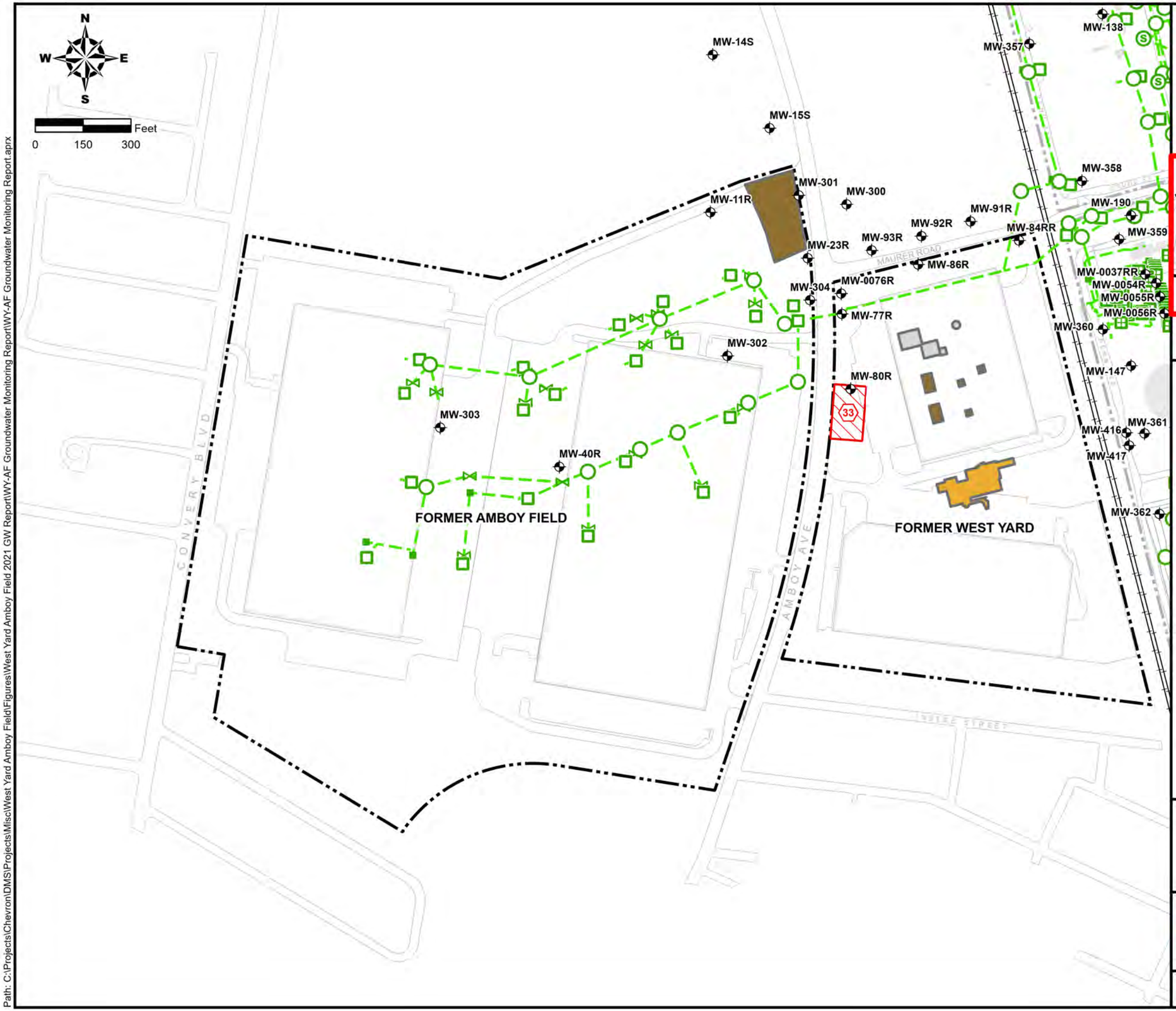
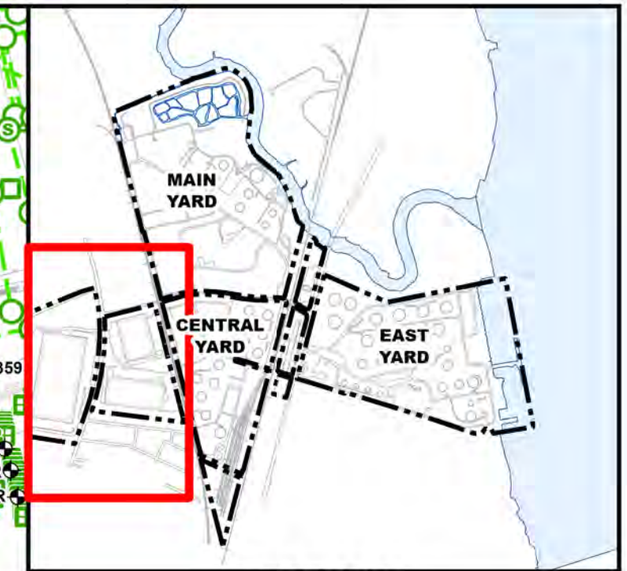
Chevron

SITE LOCATION ON A USGS MAP

WEST YARD AND AMBOY FIELD
GROUNDWATER MONITORING REPORT

DATE: 8/9/2021	DWN: ADW
	CHKD: CK
PROJECT #: 452501-09800	FIG #: 1





LEGEND

- Shallow Monitoring Well
- SWMU 33 Boundary
- Former No. 2 Amine Plant Components
- Former Sulfur Recovery Units
- Former No. 2 Power Plant
- Former Amboy Field/Former West Yard Property Line

Historic Subsurface Features

- OWSS, CI Shutoff Valve
- OWSS, Catch Basin
- OWSS, Cleanout
- OWSS, Drain
- OWSS, Manhole
- OWSS, Sump
- Oily-Water Sewer System

WEST YARD AND AMBOY FIELD SITE FEATURES

WEST YARD AND AMBOY FIELD
GROUNDWATER MONITORING REPORT

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
452501-09800	6/8/2021	ADW	CK	2

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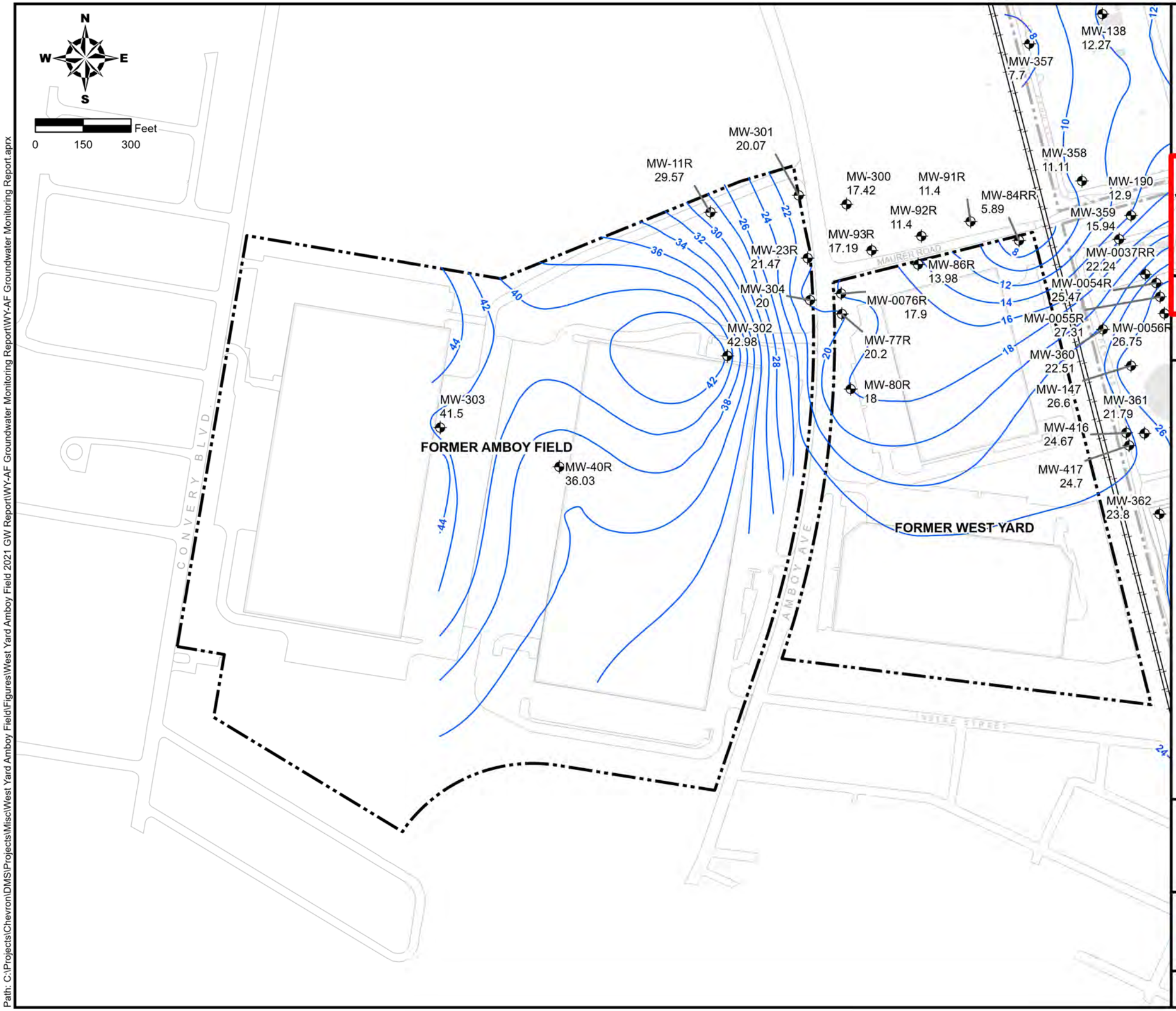

LEGEND

- Shallow Monitoring Well
- Q2 2020 Shallow Groundwater Contour
- Former Amboy Field/Former West Yard Property Line

NOTE: Groundwater elevations were measured in feet relative to mean sea level.

SHALLOW GROUNDWATER CONTOURS - Q2 2020

WEST YARD AND AMBOY FIELD
GROUNDWATER MONITORING REPORT

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
452501-09800	6/8/2021	ADW	CK	3a

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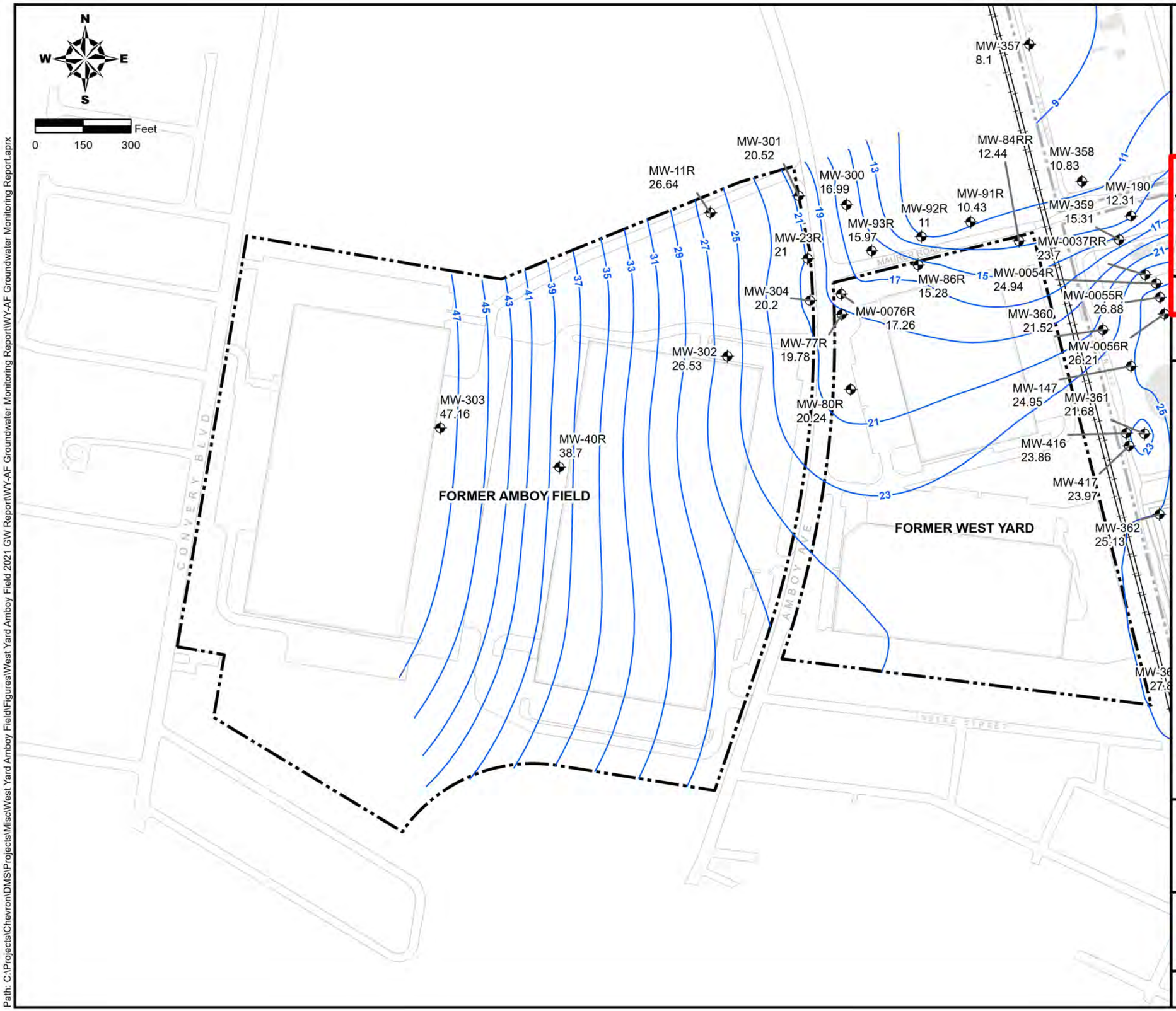

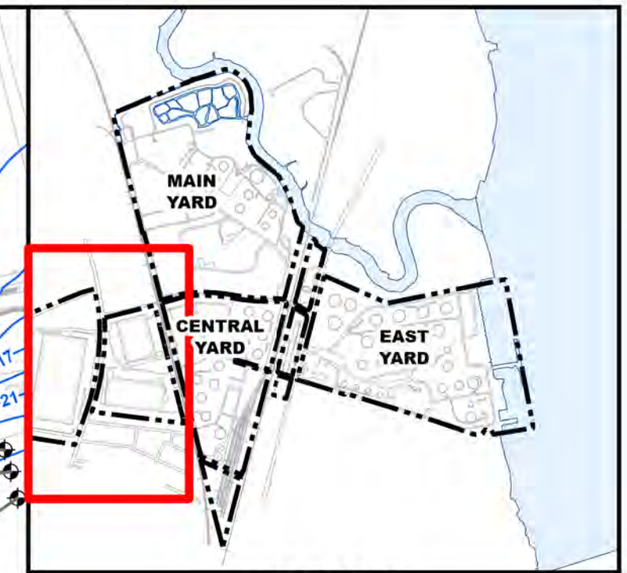

LEGEND

- Shallow Monitoring Well
- Q4 2020 Shallow Groundwater Contour
- Former Amboy Field/Former West Yard Property Line

NOTE: Groundwater elevations were measured in feet relative to mean sea level.

SHALLOW GROUNDWATER CONTOURS - Q4 2020

WEST YARD AND AMBOY FIELD
GROUNDWATER MONITORING REPORT

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
452501-09800	6/8/2021	ADW	CK	3b

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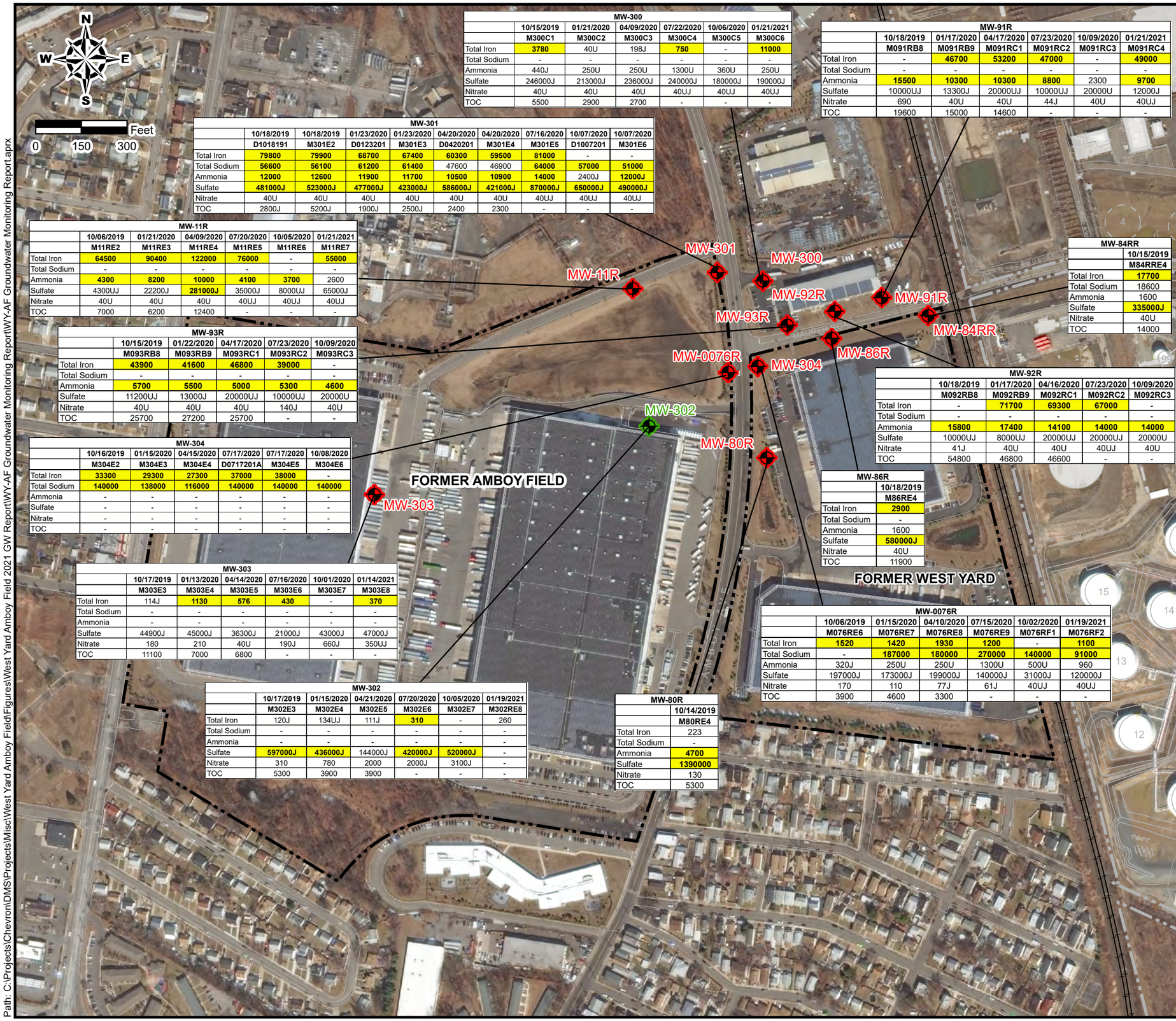


MW-300						
	10/15/2019	01/21/2020	04/09/2020	07/22/2020	10/06/2020	01/21/2021
	M300C1	M300C2	M300C3	M300C4	M300C5	M300C6
Total Iron	3780	40U	198J	750	-	11000
Total Sodium	-	-	-	-	-	-
Ammonia	440J	250U	250U	1300U	360U	250U
Sulfate	246000J	213000J	236000J	240000J	180000J	190000J
Nitrate	40U	40U	40U	40UJ	40UJ	40UJ
TOC	5500	2900	2700	-	-	-

MW-91R						
	10/18/2019	01/17/2020	04/17/2020	07/23/2020	10/09/2020	01/21/2021
	M091RB8	M091RB9	M091RC1	M091RC2	M091RC3	M091RC4
Total Iron	-	46700	53200	47000	-	49000
Total Sodium	-	-	-	-	-	-
Ammonia	15500	10300	10300	8800	2300	9700
Sulfate	10000UJ	13300J	20000UJ	10000UJ	20000U	12000J
Nitrate	690	40U	40U	44J	40U	40UJ
TOC	19600	15000	14600	-	-	-

MW-301									
	10/18/2019	10/18/2019	01/23/2020	01/23/2020	04/20/2020	04/20/2020	07/16/2020	10/07/2020	10/07/2020
	D1018191	M301E2	D0123201	M301E3	D0420201	M301E4	M301E5	D1007201	M301E6
Total Iron	79800	79900	68700	67400	60300	59500	81000	-	-
Total Sodium	56600	56100	61200	61400	47600	46900	64000	57000	51000
Ammonia	12000	12600	11900	11700	10500	10900	14000	2400J	12000J
Sulfate	481000J	523000J	477000J	423000J	586000J	421000J	870000J	650000J	490000J
Nitrate	40U	40U	40U	40U	40U	40U	40UJ	40UJ	40UJ
TOC	2800J	5200J	1900J	2500J	2400	2300	-	-	-

MW-11R						
	10/06/2019	01/21/2020	04/09/2020	07/20/2020	10/05/2020	01/21/2021
	M11RE2	M11RE3	M11RE4	M11RE5	M11RE6	M11RE7
Total Iron	64500	90400	122000	76000	-	55000
Total Sodium	-	-	-	-	-	-
Ammonia	4300	8200	10000	4100	3700	2600
Sulfate	4300UJ	22200J	281000J	35000J	8000UJ	65000J
Nitrate	40U	40U	40U	40UJ	40UJ	40UJ
TOC	7000	6200	12400	-	-	-

MW-84RR	
	10/15/2019
	M84RRE4
Total Iron	17700
Total Sodium	18600
Ammonia	1600
Sulfate	335000J
Nitrate	40U
TOC	14000

MW-93R					
	10/15/2019	01/22/2020	04/17/2020	07/23/2020	10/09/2020
	M093RB8	M093RB9	M093RC1	M093RC2	M093RC3
Total Iron	43900	41600	46800	39000	-
Total Sodium	-	-	-	-	-
Ammonia	5700	5500	5000	5300	4600
Sulfate	11200UJ	13000J	20000UJ	10000UJ	20000U
Nitrate	40U	40U	40U	140J	40U
TOC	25700	27200	25700	-	-

MW-92R					
	10/18/2019	01/17/2020	04/16/2020	07/23/2020	10/09/2020
	M092RB8	M092RB9	M092RC1	M092RC2	M092RC3
Total Iron	-	71700	69300	67000	-
Total Sodium	-	-	-	-	-
Ammonia	15800	17400	14100	14000	14000
Sulfate	10000UJ	8000UJ	20000UJ	20000UJ	20000U
Nitrate	41J	40U	40U	40UJ	40U
TOC	54800	46800	46600	-	-

MW-304						
	10/16/2019	01/15/2020	04/15/2020	07/17/2020	07/17/2020	10/08/2020
	M304E2	M304E3	M304E4	D0717201A	M304E5	M304E6
Total Iron	33300	29300	27300	37000	38000	-
Total Sodium	140000	138000	116000	140000	140000	140000
Ammonia	-	-	-	-	-	-
Sulfate	-	-	-	-	-	-
Nitrate	-	-	-	-	-	-
TOC	-	-	-	-	-	-

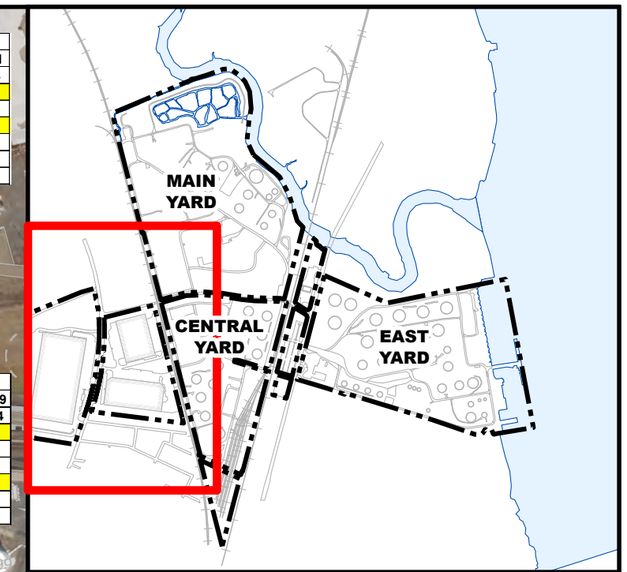
MW-86R	
	10/18/2019
	M86RE4
Total Iron	2900
Total Sodium	-
Ammonia	1600
Sulfate	580000J
Nitrate	40U
TOC	11900

MW-303						
	10/17/2019	01/13/2020	04/14/2020	07/16/2020	10/01/2020	01/14/2021
	M303E3	M303E4	M303E5	M303E6	M303E7	M303E8
Total Iron	114J	1130	576	430	-	370
Total Sodium	-	-	-	-	-	-
Ammonia	-	-	-	-	-	-
Sulfate	44900J	45000J	36300J	21000J	43000J	47000J
Nitrate	180	210	40U	190J	660J	350UJ
TOC	11100	7000	6800	-	-	-

MW-0076R						
	10/06/2019	01/15/2020	04/10/2020	07/15/2020	10/02/2020	01/19/2021
	M076RE6	M076RE7	M076RE8	M076RE9	M076RF1	M076RF2
Total Iron	1520	1420	1930	1200	-	1100
Total Sodium	-	187000	180000	270000	140000	91000
Ammonia	320J	250U	250U	1300U	500U	960
Sulfate	197000J	173000J	199000J	140000J	31000J	120000J
Nitrate	170	110	77J	61J	40UJ	40UJ
TOC	3900	4600	3300	-	-	-

MW-302						
	10/17/2019	01/15/2020	04/21/2020	07/20/2020	10/05/2020	01/19/2021
	M302E3	M302E4	M302E5	M302E6	M302E7	M302RE8
Total Iron	120J	134UJ	111J	310	-	260
Total Sodium	-	-	-	-	-	-
Ammonia	-	-	-	-	-	-
Sulfate	597000J	436000J	144000J	420000J	520000J	-
Nitrate	310	780	2000	2000J	3100J	-
TOC	5300	3900	3900	-	-	-

MW-80R	
	10/14/2019
	M80RE4
Total Iron	223
Total Sodium	-
Ammonia	4700
Sulfate	1390000
Nitrate	130
TOC	5300



LEGEND

- Shallow Monitoring Well - Above NJDEP GWQS
- Shallow Monitoring Well - Below NJDEP GWQS
- Former Amboy Field/Former West Yard Property Line

PERTINENT NOTES:

1. NJDEP GWQS are as follows: total iron - 300 ug/L, total sodium - 50,000 ug/L, ammonia - 3,000 ug/L, sulfate - 250,000 ug/L, nitrate - 10,000 ug/L
2. Red sample location and text indicates an exceedance for one or more parameters in the last sample event.
3. Green sample location and text indicates no exceedance for one or more parameters in the last sample event.
4. Cells highlighted yellow and bold indicate value exceeds the NJDEP GWQS.
5. Concentrations are measured in ug/L.

Location ID	H0100
Date	9/2/1999
Benzene	150

Location ID	MW-100
Sample ID	M385A1X
Date	10/28/2013
Benzene	97

GENERAL NOTES:

1. "U" = Compound not detected above MDL.
2. "J" = Estimated concentration less than the reporting limit but above MDL.
3. "UJ" = Analyte not detected above the appropriate reported sample quantitation limit.
4. Aerial photograph dated March 23, 2015 was provided by eMap International.

ANALYTICAL RESULTS IN GROUNDWATER

WEST YARD AND AMBOY FIELD
GROUNDWATER MONITORING REPORT

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
452501-09800	8/9/2021	ADW	CK	4

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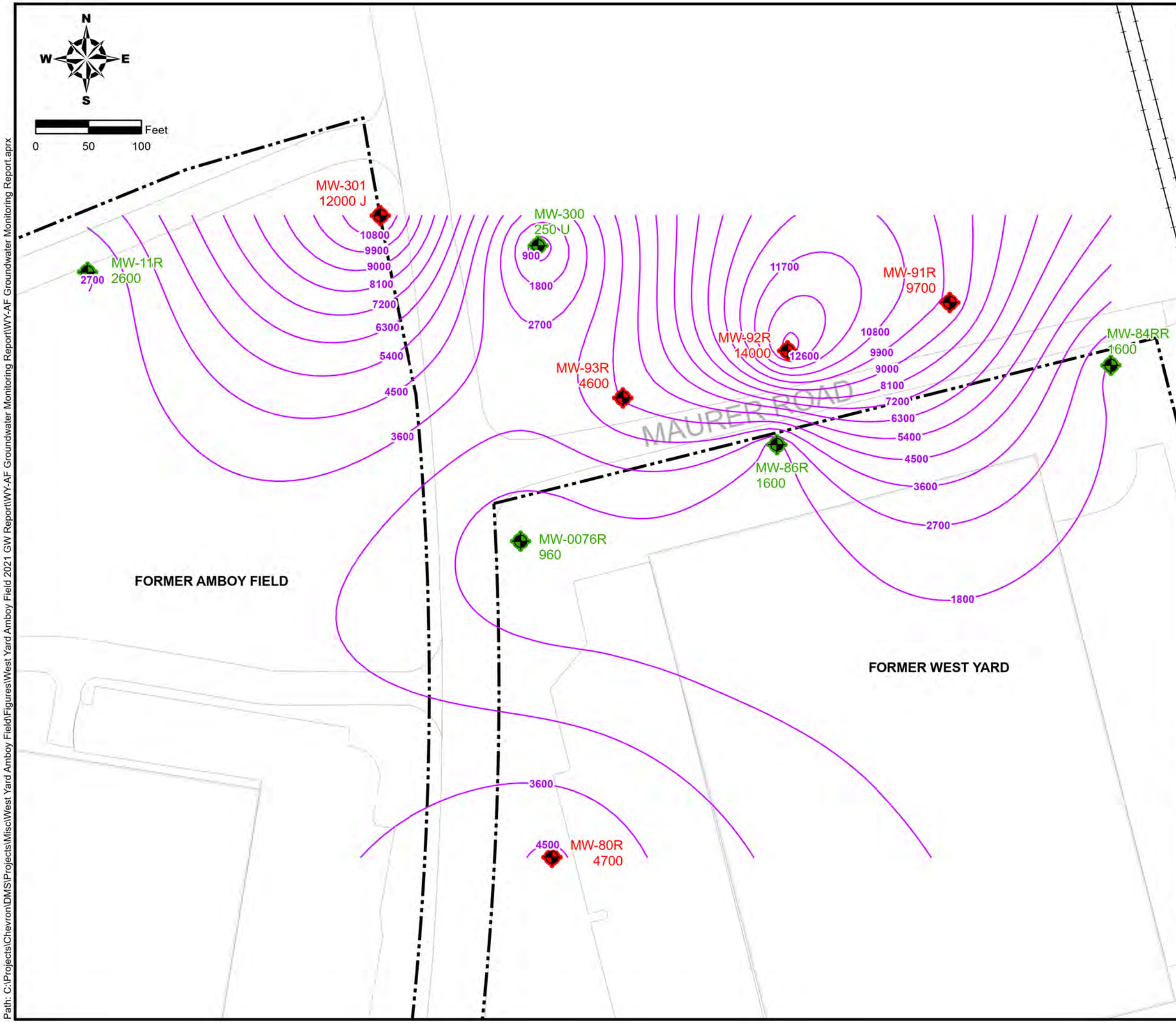


LEGEND

- Shallow Monitoring Well - Above NJDEP GWQS
- Shallow Monitoring Well - Below NJDEP GWQS
- Ammonia Concentration Isopleth Contour
- Former Amboy Field/Former West Yard Property Line

GENERAL NOTES:

1. Value below well ID is most recent ammonia result.
2. "U" = Compound not detected above MDL.
3. "J" = Estimated concentration less than the reporting limit but above MDL.

AMMONIA CONCENTRATION ISOPLETHS

WEST YARD AND AMBOY FIELD
GROUNDWATER MONITORING REPORT

CHEVRON
ENVIRONMENTAL MANAGEMENT COMPANY
PERTH AMBOY, NEW JERSEY

PROJECT #:	DATE:	DWN:	CHKD:	FIG NO.:
452501-09800	6/9/2021	ADW	CK	5

Path: C:\Projects\Chevron\DMS\Projects\Misc\West Yard Amboy Field\Figures\West Yard Amboy Field 2021 GW Report\WY-AF Groundwater Monitoring Report\WY-AF Groundwater Monitoring Report.aprx

APPENDIX A

Monitoring Well Records

DWR-020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

WELL PERMIT # 26-27059
of well sealed

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

DATE WELL SEALED 3-30-06

PROPERTY OWNER Chevron Products Company, Inc (USA)

ADDRESS 1200 State Street, Perth Amboy, NJ 08861

WELL LOCATION 1200 State Street, Perth Amboy, Middlesex County
Street & No., Township, County

MW-11	1	399, 401, 469, 478
Well No.	Lot No.	Block No.

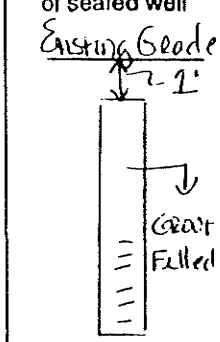
USE OF WELL PRIOR TO ABANDONMENT: Monitoring

REASON FOR ABANDONMENT: No longer needed

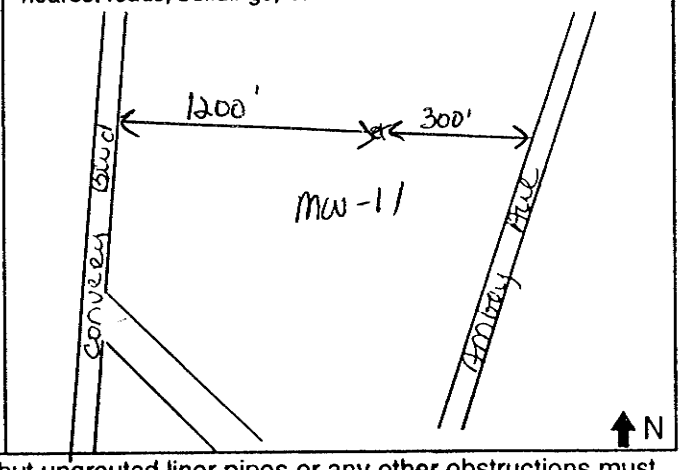
WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL

TOTAL DEPTH OF WELL 14
DIAMETER 4
CASING LENGTH 3
SCREEN LENGTH 11
NUMBER OF CASINGS 1

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



MATERIAL USED TO DECOMMISSION WELL:

8 Gallons of Water
94 Lbs. of Cement
5 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ___ Consolidated
X Unconsolidated

To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: P.V.C.

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS:

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Dave Yetnick 1256 N. Church St. Moorestown, NJ 08057 4-11-06
Performing Work (Print or Type) Address Mailing Date
Name of NJ Licensed Well Driller

Dave Yetnick MW-224815
Signature of NJ Licensed Well Driller Registration #
Performing Work

COPIES: *White - Water Allocation* *Yellow - Owner* *Pink - Health Dept.* *Goldenrod - Driller*

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Chevron USA, Inc.
Name of Facility: Chevron Perth Amboy Refinery
Location: Perth Amboy, New Jersey 08861
NJPDES Permit No: NJ 0000221

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section (609-984-6831)):	2 6 - 2 7 0 5 9 -
Owner's Well Number (As shown on the application or plans):	MW-11
Well Completion Date:	10/11/91
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	-0.26 (flush mount)
Total Depth of Well (one-hundredth of a foot):	14
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.74
Screen Length (feet):	11
Screen or Slot Size:	0.020
Screen or Slot Material:	PVC
Casing Material: (PVC, Steel or Other-Specify):	PVC
Casing Diameter (inches):	4
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	5.20
Yield (gallons per minute):	1
Length of Time Well Pumped or Bailed:	0 Hours 10 Minutes
Lithologic Log:	Attach To dryness

Authentication

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Dan D. Raviv, Ph.D.
Name (Type or Print)

Signature
Hydrogeologist

Seal

Certification or License No.

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS/HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: Chevron USA, Inc.
Name of Facility: Chevron Perth Amboy Refinery
Location: Perth Amboy, New Jersey 08861
NJPDES Number: NJ0000221

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation): 2 6 - 2 7 0 5 9 -
This number must be permanently affixed to the well casing.
Datum NAD 83
Longitude (one-tenth of a second): West 74-16-22.4
Latitude (one-tenth of a second): North 40-32-12.3
Elevation of Top of Casing (cap off) (one-hundredth of a foot): WC= 30.22 /PVC= 29.95 /GRD= 30.21
Owners Well Number (As shown on application or plans): MW-11

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possiblity of fine and imprisonment.

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

SEAL

Paul J. Emilius
PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

New Jersey P.L.S. License No. 11363
PROFESSIONAL LAND SURVEYOR'S LICENSE #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (N.J.A.C. 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to be a major modification of the NJPDES permit.

DWR-133M
1/09

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

Permit No. _____

Mail To:
NJDEP
BUREAU OF WATER SYSTEMS
AND WELL PERMITTING
PO BOX 426
TRENTON, NJ 08625-0426
email: wellpermitting@dep.state.nj.us

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.31.872

Owner Morris Pain Management Associates
Address 250 Vehicle Blvd
Rutherford NJ 07070

Driller East Coast Drilling
Address 1350 N. Church St
Moorestown NJ 08057

Name of Facility OSS Site Quarterly Target
Address 1051-1057 Anderson Avenue
Fort Lee, NJ 07024

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	7	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	cumulative GPM

Lease on file

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
10	409	Fort Lee	Bergen

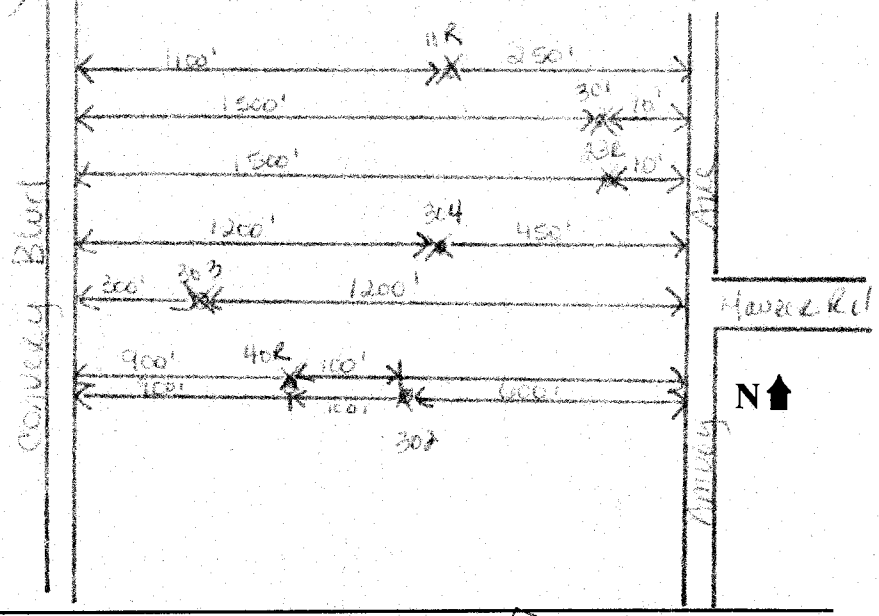
7/14/09

LOCAL ID	NORTHING (Y)	EASTING (X)
MW-11R	620468	555291
MW-22R	620426	555569
MW-40R	619773	554650
MW-301	620504	555539
MW-302	620015	554946
MW-303	620232	554206
MW-304	620311	555085

PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

METHOD
☐ SURVEY ☑ DIGITAL IMAGE ☐ GPS

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____
- ☐ Spill Site
- ☑ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number
NJD 051988902

This Space for Approval Stamp
WELL PERMIT APPROVED
N.J. D.E.P.
AUG 13 2009
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached (see next page). ☐ For monitoring purposes only
☐ _____

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 8/10/09 Signature of Driller _____ Registration No. _____
Signature of Property Owner _____

COPIES: Water Systems & Well Permitting - White Health Dept. - Yellow Owner - Blue Driller - White

Pass ccol

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number P200909787

MONITORING WELL RECORD

Atlas Sheet Coordinates 2631898

OWNER IDENTIFICATION MORRIS PERTH AMBOY ASSOCIATES

Address 350 VERTERANS BLVD.

City Rutherford State New Jersey Zip Code 07070

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-11R

County Middlesex Municipality Perth Amboy City Lot No. 1 Block No. 469

Address 1051-1057 AMBOY AVENUE MW-11R

WELL USE Monitoring

DATE WELL STARTED 9/10/09

DATE WELL COMPLETED 9/10/09

WELL CONSTRUCTION

Total Depth Drilled 20 ft.

Finished Well Depth 18 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Steel protective casing installed? ☑ Yes ☐ No

Static Water Level after drilling 6.1 ft.

Water Level was Measured Using Mscope

Well was developed for 1 hours

at 1 gpm

Method of development Pump

Pump Capacity — gpm

Pump Type —

Drilling Fluid — Type of Rig 6610DT

Health and Safety Plan Submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	3	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	3	18	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	2	20		#0	
Grout	0	2		Neat Cement Bentonite	94 lbs 5 lbs

Grouting Method Tremie

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-6" Toosoil
6"-6' Brown Silty Sand
6'-10' DK gray clay
10-20' DK Brown Silty sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Tim Saris

Driller's Signature Tim Saris

Registration No. MW449791 Date 11/5/09

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 620514 **EASTING:** 555243

OR

LATITUDE: 40° 32' 12.2" **LONGITUDE:** 74° 16' 22.4"

ORIGINAL: DEP *COPIES: DRILLER* *OWNER* *HEALTH DEPARTMENT*

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Morris Perth Amboy Associates
Name of Facility: Off-Site Chevron Project
Location: 1051-1057 Amboy Avenue, Perth Amboy, Middlesex County, New Jersey 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	P 2 0 0 9 0 9 7 8 7
Owner's Well Number (As shown on the application or plans):	MW-11R
Well Completion Date:	9-10-09
Distance from Top of Casing (cap off) to ground surface (One-hundredth of a foot):	0.00
Total Depth of Well to the nearest ½ foot:	18.00
Depth to Top of Screen From Top of Casing (or depth to open hole) To the nearest ½ foot:	3.00
Screen Length (pr length of open hole) in feet:	15'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (One-hundredth of a foot):	6.10
Yield (gallons per minutes):	1.00
Length of Time Well is Developed/Pumped or Bailed:	1 Hours 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

S:\Forms\FORM A - NEW\P200909787.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-11R**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 22.42"** Latitude: **North 40° 32' 12.28"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **620514.5** East: **555243.9**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **35.32'**
Outer Steel Casing : **35.69'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

WELL PERMIT # 26-40234
of well sealed

MAIL TO: **Bureau of Water Allocation**
PO Box 426
Trenton, NJ 08625-0426

DATE WELL SEALED 3-30-06

PROPERTY OWNER Chevron Products Company, Inc (USA)

ADDRESS 1200 State Street, Perth Amboy, NJ 08861

WELL LOCATION 1200 State Street, Perth Amboy, Middlesex County
Street & No., Township, County

CA-mw-01 (mw-0023)	1	399, 401, 469, 478
Well No.	Lot No.	Block No.

USE OF WELL PRIOR TO ABANDONMENT: Monitoring

REASON FOR ABANDONMENT: No longer Needed

WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL _____

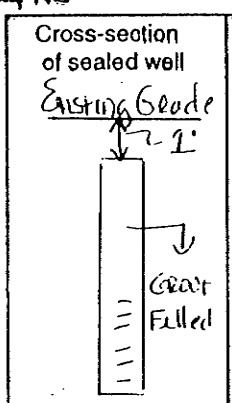
TOTAL DEPTH OF WELL 12
DIAMETER 4
CASING LENGTH 2
SCREEN LENGTH 10
NUMBER OF CASINGS 1

MATERIAL USED TO DECOMMISSION WELL:

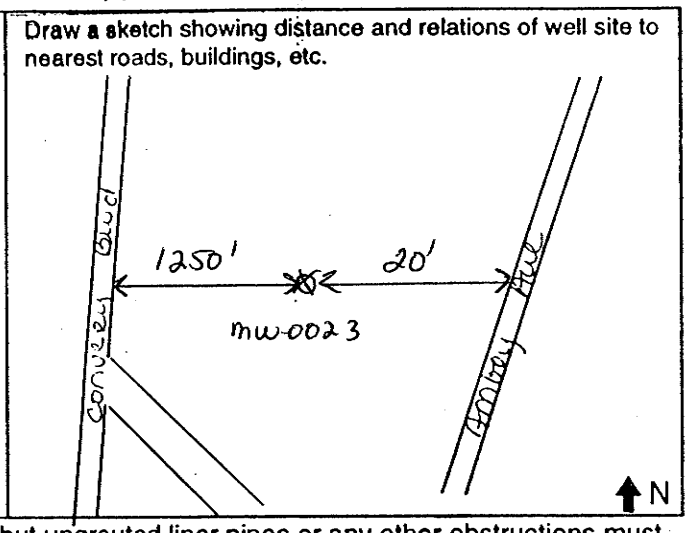
8 Gallons of Water
94 Lbs. of Cement
5 Lbs. of Bentonite
– Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ____ Consolidated
X Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: P.V.C.

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Dave Yetnick 1256 N. Church St. Moorestown, NJ 08057 — 4-17-06
Performing Work (Print or Type) — Address — Mailing Date
Name of NJ Licensed Well Driller — Dave Yetnick — MW-224815
Signature of NJ Licensed Well Driller Performing Work — Registration #

COPIES: ***White - Water Allocation*** ***Yellow - Owner*** ***Pink - Health Dept.*** ***Goldenrod - Driller***

SERIAL # 42818

MW-23

DWR-133M (10/93)

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
TRENTON, NJ

Mail to

NJDEPE
Bureau Water Allocation
CN426
Trenton, NJ 08625

MONITORING WELL PERMIT

16

Permit No: 2640234

VALID ONLY AFTER APPROVAL BY THE D.E.P.E.

COORD #: 26 . 31 . 9 ~~3~~ 5

Owner: Chevron USA, Inc.
Address: 1200 State Street
Perth Amboy, N.J. 08861

Name of Facility: Chevron Perth Amboy Refinery
Address: 1200 State Street
Perth Amboy, NJ 08861

Driller: James C. Anderson Assoc., Inc.
Address: 907 Pleasant Valley Ave.
Mt. Laurel, NJ 08054

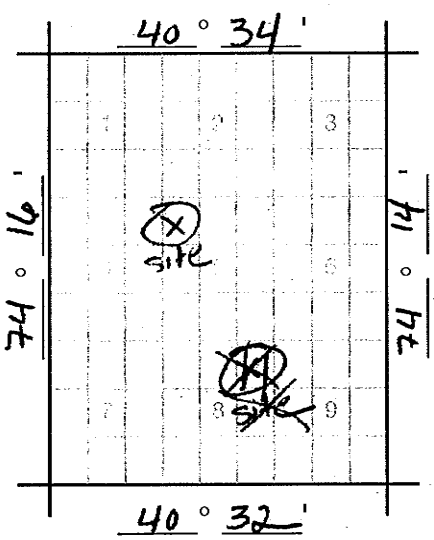
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	20 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be installed? YES ☐ NO ☒	
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— GPM

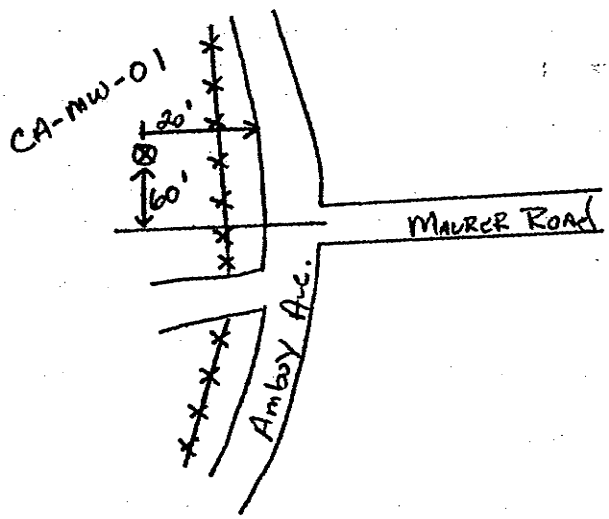
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	469	Perth Amboy	Middlesex

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☒ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
APR 4 1995
BUREAU OF WATER ALLOCATION

FOR D.E.P.E. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT.

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date: March 28, 1995
Signature of Driller: Jim Duffy
License #: M1224
Signature of Owner: Charles Etter (QD.)

COPIES: Water Allocation — White and Pink Health Dept. — Yellow Owner — Blue Driller — White

DWR-138 M
12/91

New Jersey Department of Environmental Protection and Energy
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 40234
Atlas Sheet Coordinates 26 : 31 : 953

OWNER IDENTIFICATION - Owner Chevron USA Inc.
Address 1200 State Street
City Perth Amboy State NJ Zip Code 08861

WELL LOCATION - If not the same as owner please give address. Owner's Well No. CA-MW-01 (MW-0023)
County Middlesex Municipality Perth Amboy City Lot No. 1 Block No. 469
Address SAME

TYPE OF WELL (as per Well Permit Categories) Monitoring Date well completed 4/24/95
Regulatory Program Requiring Well RCRA Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 12.5 ft.
Well finished to 12 ft.
Borehole diameter:
Top 10 in.
Bottom 10 in.
Well was finished: ☒ above grade ☐ flush mounted
If finished above grade, casing height (stick up) above land surface 2 ft.
Was steel protective casing installed? ☒ Yes ☐ No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	2	4	Sch. 40 PVC.
Outer Casing (Not Protective Casing)				
Screen (Note slot size)	2	12	4	.010 PVC.
Tail Piece				
Gravel Pack	1.5	12.5		#1 Gravel
Annular Seal/Grout	0	1.5		Cement-Bentonite
Method of Grouting	Tremie			

Static water level after drilling 5.5 ft.
Water level was measured using M Scope
Well was developed for 1 hours at 2 gpm
Method of development Pumping
Was permanent pumping equipment installed? ☐ Yes ☒ No
Pump capacity gpm
Pump type:
Drilling Method HSA
Drilling Fluid None Type of Rig Mobil B-57
Name of Driller Steve Burger
Health and Safety Plan submitted? ☒ Yes ☐ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. JD1624
Name of Drilling Company James C. Anderson Assoc.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0-4' Tan m-f sand, Black & Dk. Brown c-f sand, some clay
4'-7' Dark Gray Silt & sand, trace gravel
7'-9' Red-Brown clayey sand
9'-11' Red-Brown clayey silt
11'-12' Red-Brown c-f sand
12'-12.5' Dark Gray clayey silt

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Steve Burger (JD) Date 5-30-95

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Chevron USA, Inc.
Nameof Facility: Chevron Perth Amboy Facility
Location: 1200 State Street Perth Amboy, NJ
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section (609-984-6831)):	26-40234-
Owner's Well Number (As shown on the application or plans):	CA-MW-01 (MW-0023)
Well Completion Date:	4-24-95
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	2.00
Total Depth of Well (one-hundredth of a foot):	12.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	4.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch. 40 PVC.
Casing Material: (PVC, Steel or Other-Specify):	Sch. 40 PVC.
Casing Diameter (inches):	4.00
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	5.50
Yield (gallons per minute):	2.00
Length of Time Well Pumped or Bailed:	1 Hours 0 Minutes
Lithologic Log:	Attach

Authentication

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

THIS FORM MUST BE COMPLETED BY THE PERMITTEE AND/OR SURVEYOR

MONITORING WELL CERTIFICATION-FORM B-LOCATION CERTIFICATION

Name of Permittee: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: Amboy Field, Perth Amboy, New Jersey
NJPDES Permit No: _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number: 2 - 6 4 0 23- 4
This number must be permanently affixed to the well casing.

Longitude (to nearest second): West 74° 16' 18.6"

Latitude (to nearest second): North 40° 32' 10.9"

Elevation of Top of Inner Casing (cap off, one-hundredth of a foot): PVC=26.62' Steel=27.49' Ground=24.9'

Source of Elevation Datum (benchmark, etc.) and Elevation (If an alternate datum has been approved by the Department, identify here and give approximated elevation): Source: NJGS Index 30 #C-37
Elev.: NVD29 22.109'

Owners Well Number (As shown on application or plans): MW-0023

Elevations are to be determined by double run, three wire leveling methods using balanced sights, commencing from a well, marked an described point. This beginning point shall either be derived from Federal or State benchmarks if not more than 1000 feet from the site or if the Department has approved an alternate datum, based on an assume datum of 100. Tolerances should meet third order standards, which are 0.05 ft x (mile) 1/2. For sections less than 0.1 mile, let miles = 0.1.

Authentication

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

PROFESSIONAL LAND SURVEYOR'S SIGNATURE

J. Peter Borbas, 11A Rockaway Vly. Rd.
Boonton, NJ 07005
(201) 316-8743

PROFESSIONAL LAND SURVEYOR'S NAME
(Please print or type)

SEAL

NJ GS 31653

PROFESSIONAL LAND SURVEYOR'S LICENSE #

NJ10302.WP1/FORM.B

DWR-133M
1/09

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

P200909787
Mau-

Mail To:
NJDEP
BUREAU OF WATER SYSTEMS
AND WELL PERMITTING
PO BOX 426
TRENTON, NJ 08625-0426
email: wellpermitting@dep.state.nj.us

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. P200909793

COORD #: 26.31.898

Owner Morris Perth Amboy Associates
Address 350 Veterans Blvd
Rutherford, NJ 07070

Driller East Coast Drilling
Address 1256 N. Church St
Moorestown NJ 08057

Name of Facility Off Site Chevron Project
Address 1051-1057 Amboy Avenue
Perth Amboy, NJ 08861

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	7	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes: give pump capacity	— cumulative GPM

Leave as Lot #

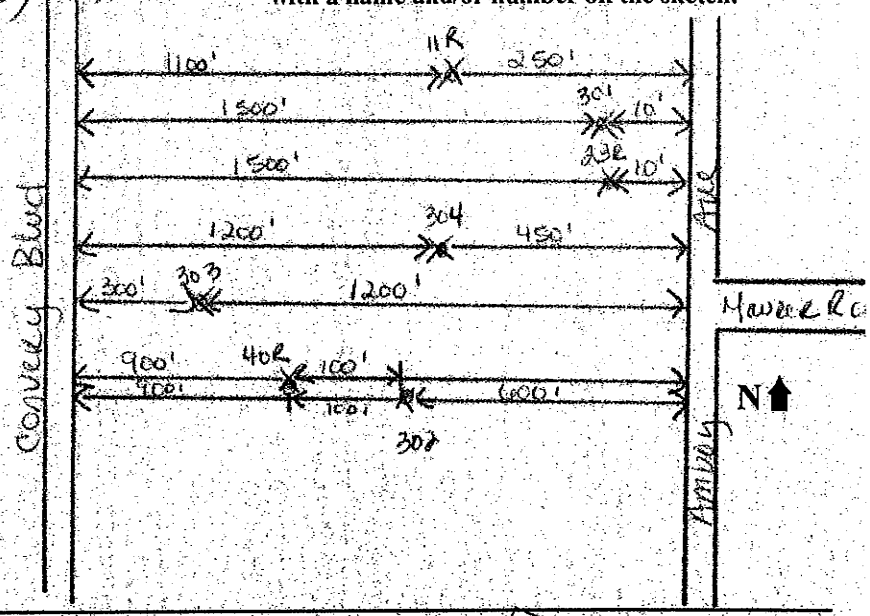
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
~~102~~	469	Perth Amboy	Middlesex

8/12/09

LOCAL ID	NORTHING (Y)	EASTING (X)
MW-11R	620468	555291
MW-23R	620426	555569
MW-40R	619773	554650
MW-301	620504	555539
MW-302	620015	554946
MW-303	620232	554306
MW-304	620311	555085

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

METHOD
☐ SURVEY ☒ DIGITAL IMAGE ☐ GPS

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☒ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number
NJD 081982902

This Space for Approval Stamp
WELL PERMIT APPROVED
N.J. D.E.P.
AUG 13 2009
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached (see next page) ☒ For monitoring purposes only
☐ 2009 AUG 11 PM 3:55

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 8/10/09 Signature of Driller James W. Duffy Registration No. M1224
Signature of Property Owner Tom Gallagher

COPIES: Water Systems & Well Permitting - White Health Dept. - Yellow Owner - Blue Driller - White

Page 001

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number P200909788

MONITORING WELL RECORD

Atlas Sheet Coordinates 2631898

OWNER IDENTIFICATION MORRIS PERTH AMBOY ASSOCIATES

Address 350 VERTERANS BLVD.

City Rutherford State New Jersey Zip Code 07070

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-23R

County Middlesex Municipality Perth Amboy City Lot No. 1 Block No. 469

Address 1051-1057 AMBOY AVENUE MW-23R

WELL USE Monitoring

DATE WELL STARTED 9/8/09

DATE WELL COMPLETED 9/8/09

WELL CONSTRUCTION

Total Depth Drilled 15 ft.

Finished Well Depth 12.5 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Steel protective casing installed? ☑ Yes ☐ No

Static Water Level after drilling 4.2 ft.

Water Level was Measured Using MScope

Well was developed for 1 hours

at 1 gpm

Method of development Pump

Pump Capacity — gpm

Pump Type —

Drilling Fluid — Type of Rig 6610 DT

Health and Safety Plan Submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2.5	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2.5	12.5	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1.5	15		#0	
Grout	0	1.5		Neat Cement Bentonite	94 lbs 5 lbs

Grouting Method Tremie

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-6" Topsoil
6"-2' Fill and stone
2-4.5' Brown Sand
4.5-12' Brown Silty Sands
12-15' Brownish Gray Silty sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Tim Saris

Driller's Signature Tim Saris

Registration No. MW449791 Date 11/5/09

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 620371 **EASTING:** 555548

OR

LATITUDE: 40° 32' 10.8" **LONGITUDE:** 74° 16' 18.4"

ORIGINAL: DEP *COPIES: DRILLER* *OWNER* *HEALTH DEPARTMENT*

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Morris Perth Amboy Associates
Name of Facility: Off-Site Chevron Project
Location: 1051-1057 Amboy Avenue, Perth Amboy, Middlesex County, New Jersey 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	P 2 0 0 9 0 9 7 8 8
Owner's Well Number (As shown on the application or plans):	MW-23R
Well Completion Date:	9-8-09
Distance from Top of Casing (cap off) to ground surface (One-hundredth of a foot):	0.00
Total Depth of Well to the nearest ½ foot:	12.50
Depth to Top of Screen From Top of Casing (or depth to open hole) To the nearest ½ foot:	2.50
Screen Length (pr length of open hole) in feet:	10.50'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (One-hundredth of a foot):	4.20
Yield (gallons per minutes):	1.00
Length of Time Well is Developed/Pumped or Bailed:	1 Hours 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

S:\Forms\FORM A - NEW\P200909788.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-23R**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 18.48"** Latitude: **North 40° 32' 10.85"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **620371.1** East: **555548.9**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **24.29'**
Outer Steel Casing : **24.67'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

WELL PERMIT # 26-49826
of well sealed

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

DATE WELL SEALED 3-30-06

PROPERTY OWNER Chevron Products Company, Inc (USA)

ADDRESS 1200 State Street, Perth Amboy, NJ 08861

WELL LOCATION 1200 State Street, Perth Amboy, Middlesex County
Street & No., Township, County

MW-0040	1	399, 401, 469, 478
Well No.	Lot No.	Block No.

USE OF WELL PRIOR TO ABANDONMENT: Monitoring

REASON FOR ABANDONMENT: No longer needed

WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL

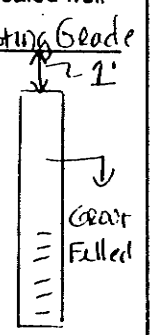
TOTAL DEPTH OF WELL 22
DIAMETER 4
CASING LENGTH 13
SCREEN LENGTH 10
NUMBER OF CASINGS 1

MATERIAL USED TO DECOMMISSION WELL:

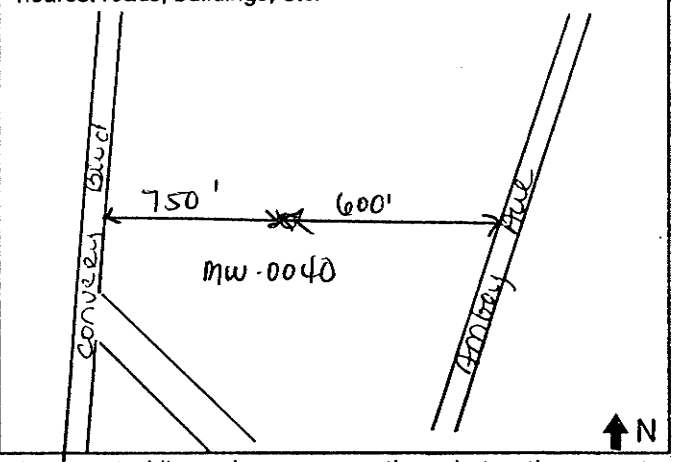
16 Gallons of Water
188 Lbs. of Cement
10 Lbs. of Bentonite
— Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ____ Consolidated
X Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: P.V.C.

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS:

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Dave Yetnick 125 N. Church St. Moorestown, NJ 08057 4-17-06
Performing Work (Print or Type) Address Mailing Date
Name of NJ Licensed Well Driller

Dave Yetnick MW-224815
Signature of NJ Licensed Well Driller Performing Work Registration #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

SERIAL # 001078

DWR-133M (10/96)

Mail to

NJDEP
Bureau Water Allocation
CN 426
Trenton, NJ 08625-0426

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

16

Permit No. 2649826

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 76.31.951

Owner: Chevron Products Co.
Address: 1200 State Street, Perth Amboy, NJ. 08861

Driller: James C. Anderson Assoc., Inc.
Address: 907 Pleasant Valley Ave., Mt. Laurel, N.J. 08054

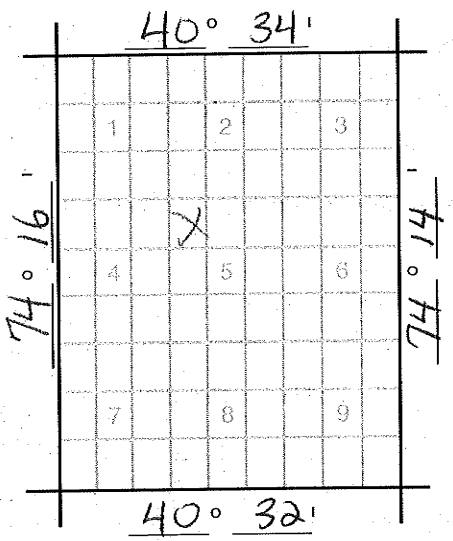
Name of Facility: Chevron Perth Amboy Refinery
Address: Same as above

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	20 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be installed?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring/Obs.	If Yes, give pump capacity	cumulative GPM

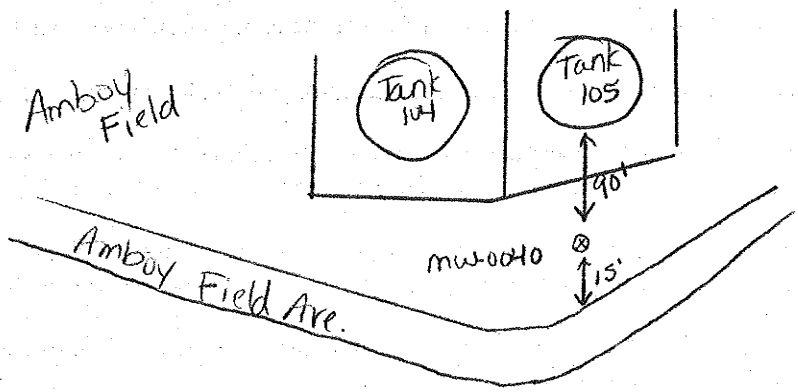
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	469	Perth Amboy	Middlesex

State Atlas Map No. 26



Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



N↑

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☒ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
JAN 22 1998
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☒ For monitoring purposes only
- ☐
- ☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT.

In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date: January 19, 1998 Signature of Driller: Jim Duffy Registration No. M1224

Signature of Owner: Bob Mancini

COPIES: Water Allocation — White Health Dept. — Yellow Owner — Blue Driller — White

DWR-138 M
1/96

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 — 49826
Atlas Sheet Coordinates 26 : 31 : 951

OWNER IDENTIFICATION - Owner CHEVRON PRODUCTS CO.
Address 1200 STATE ST.
City PERTH AMBOY State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW0040
County MIDDLESEX Municipality PERTH AMBOY CIT Lot No. 1 Block No. 469
Address 1200 STATE ST. Date well started 2/3/98
TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 2/4/98
Regulatory Program Requiring Well RCRA Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 23 ft.

Well finished to 23 ft.

Borehole diameter:
Top 10 in.
Bottom 10 in.

Well was finished: [X] above grade [ ] flush mounted

If finished above grade, casing height (stick up) above land surface 3 ft.

Was steel protective casing installed? [X] Yes [ ] No

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.) (From land surface)	Diameter (inches)	Type and Material
Inner Casing	0	13	4	SCH 40 PVC
Outer Casing (Not Protective Casing)	–	–	–	–
Screen (Note slot size)	13	23	4	SCH 40 PVC .010slot
Tail Piece	–	–	–	–
Gravel Pack	11	23	10	#0 Morie
Annular Seal/Grout	0	11	10	Bent/Cement
Method of Grouting	Tremie			

Static water level after drilling 16 ft.
Water level was measured using M-scope
Well was developed for 1 hours at 0.5 gpm
Method of development pumping
Was permanent pumping equipment installed? [ ] Yes [X] No
Pump capacity [redacted] gpm
Pump type: [redacted]
Drilling Method HSA
Drilling Fluid H_2O Type of Rig CME 55
Name of Driller Wellington Reeve
Health and Safety Plan submitted? [X] Yes [ ] No
Level of Protection used on site (circle one) None (D) C B A
N.J. Registration No.
Name of Drilling Company JAMES C. ANDERSON ASSOC. INC

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0-2' Gravel
2-4 Grey/Brn Clayey Sand
4-13' Grey Silty Clay
13-15' Grey Clay w/ F&S lenses
15-23' Grey Clay

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Driller's Signature Wellington Reeve Date 2/21/98

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Chevron Products Company, Inc.
Nameof Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section (609-984-6831)):	26-49826-
Owner's Well Number (As shown on the application or plans):	MW-0040
Well Completion Date:	2-4-98
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	3.00
Total Depth of Well (one-hundredth of a foot):	23.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	15.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4.00
Static Water Level From Top of Casing at the Time of Installation (one-hundredth of a foot):	16.00
Yield (gallons per minute):	.50
Length of Time Well Pumped or Bailed:	1 Hours - Minutes
Lithologic Log:	Attach

Authentication

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number: 26 - 49826 - __
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-40

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74 16' 28.13" Latitude: North 40 32' 05.02"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 619,778.76 East 554,805.15

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 51.63' (Steel=51.94' Grd=49.07')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37=22.109'

Significant observations and notes:

_____

_____

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

_____ March 9, 1998
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
1/09

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

Mail To:
NJDEP
BUREAU OF WATER SYSTEMS
AND WELL PERMITTING
PO BOX 426
TRENTON, NJ 08625-0426
email: wellpermitting@dep.state.nj.us

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. PCC090793

COORD #: 26.31.878

Owner Morris Perth Amboy Associates
Address 350 Veterans Blvd
Rutherford, NJ 07070

Driller East Coast Drilling
Address 1256 N. Church St
Moorestown, NJ 08057

Name of Facility OSF site Chevron project
Address 1051-1057 Amboy Avenue
Perth Amboy, NJ 08861

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	7	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	cumulative GPM

Leave as Lot 1 Block 469 Perth Amboy Middlesex
8/12/09

LOCATION OF WELL(S)

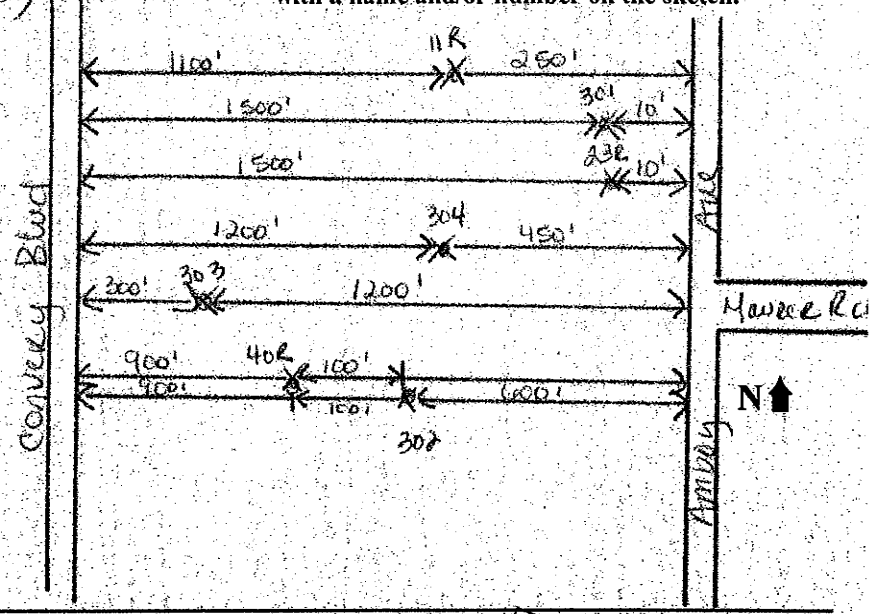
Lot #	Block #	Municipality	County
1	469	Perth Amboy	Middlesex

LOCAL ID	NORTHING (Y)	EASTING (X)
MW-11R	620468	555291
MW-23R	620426	555569
MW-40R	619773	554650
MW-301	620504	555539
MW-302	620015	554946
MW-303	620232	554306
MW-304	620311	555085

PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

METHOD
☐ SURVEY ☑ DIGITAL IMAGE ☐ GPS

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☑ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☑ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number
NJD 081982902

This Space for Approval Stamp
WELL PERMIT APPROVED
N.J. D.E.P.
AUG 13 2009
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached (see next page). ☐ For monitoring purposes only
☐ Same as well 11 MW

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 8/10/09 Signature of Driller James W. Duffee Registration No. M1224
Signature of Property Owner Tom Gallagher

COPIES: Water Systems & Well Permitting - White Health Dept. - Yellow Owner - Blue Driller - White

Page one

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number P200909789

MONITORING WELL RECORD

Atlas Sheet Coordinates 2631898

OWNER IDENTIFICATION MORRIS PERTH AMBOY ASSOCIATES

Address 350 VERTERANS BLVD.

City Rutherford State New Jersey Zip Code 07070

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-40R

County Middlesex Municipality Perth Amboy City Lot No. 1 Block No. 469

Address 1051-1057 AMBOY AVENUE MW-40R

WELL USE Monitoring

DATE WELL STARTED 9/10/09

DATE WELL COMPLETED 9/10/09

WELL CONSTRUCTION

Total Depth Drilled 20.5 ft.

Finished Well Depth 18 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Steel protective casing installed? ☑ Yes ☐ No

Static Water Level after drilling 4.5 ft.

Water Level was Measured Using MScope

Well was developed for 1 hours

at 1 gpm

Method of development Pump

Pump Capacity — gpm

Pump Type —

Drilling Fluid — Type of Rig 6610DT

Health and Safety Plan Submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	3	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	3	18	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	2	20.5		#0	
Grout	0	2		Neat Cement Bentonite	94 lbs 5 lbs

Grouting Method Tremie

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-10" Concrete
10"-5' Brown/Gray silt
5-9' light gray clay
9-20.5' Dk gray clay

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Tim Saris

Driller's Signature Tim Saris

Registration No. MW449791 Date 11/5/09

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 619716 **EASTING:** 554769

OR

LATITUDE: 40° 32' 04.4" **LONGITUDE:** 74° 16' 28.5"

ORIGINAL: DEP *COPIES: DRILLER* *OWNER* *HEALTH DEPARTMENT*

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Morris Perth Amboy Associates
Name of Facility: Off-Site Chevron Project
Location: 1051-1057 Amboy Avenue, Perth Amboy, Middlesex County, New Jersey 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	P 2 0 0 9 0 9 7 8 9
Owner's Well Number (As shown on the application or plans):	MW-40R
Well Completion Date:	9-10-09
Distance from Top of Casing (cap off) to ground surface (One-hundredth of a foot):	0.00
Total Depth of Well to the nearest ½ foot:	18.00
Depth to Top of Screen From Top of Casing (or depth to open hole) To the nearest ½ foot:	3.00
Screen Length (pr length of open hole) in feet:	15'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (One-hundredth of a foot):	4.50
Yield (gallons per minutes):	1.00
Length of Time Well is Developed/Pumped or Bailed:	1 Hours 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

S:\Forms\FORM A - NEW\P200909789.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-40R**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 28.59"** Latitude: **North 40° 32' 04.40"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **619716.1** East: **554769.9**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **46.20'**
Outer Steel Casing : **46.61'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
2/00

2663163 - THRU - 2663176

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

16

Permit No. _____

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: 21 · 41 · 3 16

Owner: Chevron Products Company

Address: 1200 State Street
Perth Amboy, NJ 08810

Name of Facility: Chevron - Perth Amboy

Address: _____

Driller: JEA Associates, Inc

Address: 1256 N. Church Street
Moorestown, NJ 08057

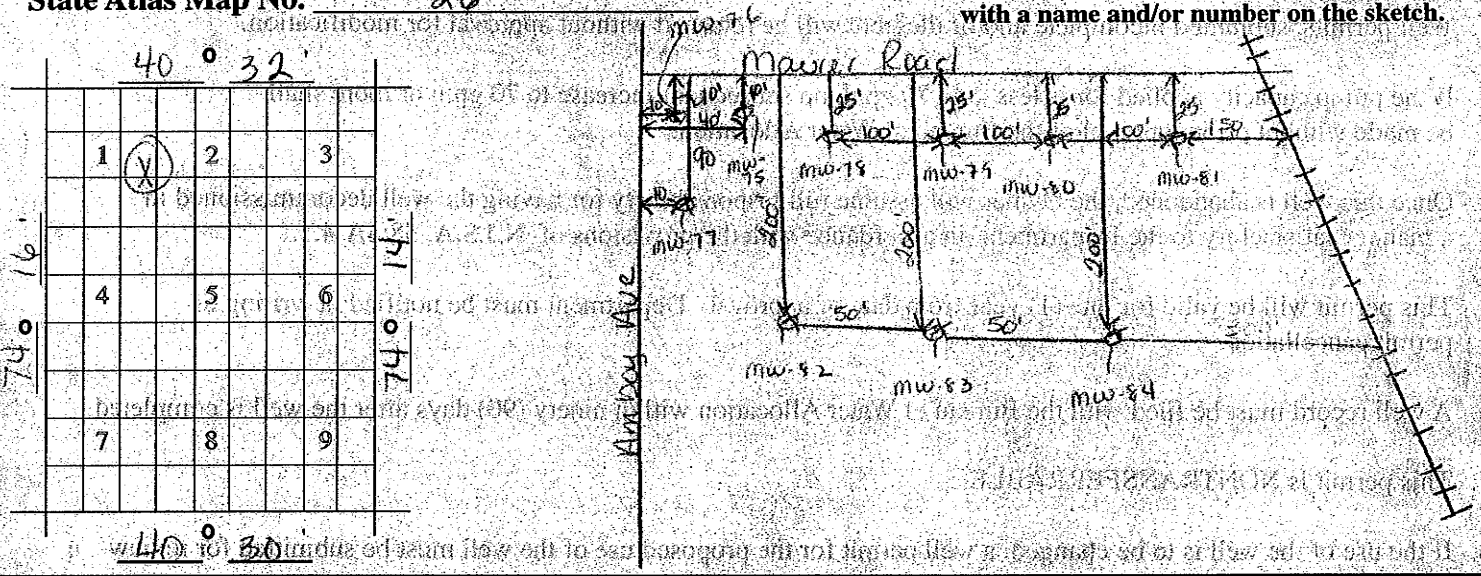
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	10	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	cumulative GPM

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	468	Perth Amboy	Middlesex

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☑ Other (explain) Groundwater Monitoring & Sampling

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
NOV 28 2001
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☑ For monitoring purposes only
- ☐ _____
- ☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 11/21/01 Signature of Driller James W. Duffy Registration No. M1224

Signature of Property Owner Tom Lambert PDP - 732-738-2022

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 63161

Atlas Sheet Coordinates 26 : 41 : 316

OWNER IDENTIFICATION - Owner CHEVRON PRODUCTS COMPANY
Address 1200 STATE STREET
City PERTH AMBOY State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-76
County MIDDLESEX Municipality PERTH AMBOY CITY Lot No. 1 Block No. 468
Address CHEVRON PERTH AMBOY

DATE WELL STARTED 12 / 5 / 01
DATE WELL COMPLETED 12 / 5 / 01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 12 ft.
Well finished to 12 ft.

Borehole diameter:
Top 10 in.
Bottom 10 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☒ Yes ☐ No

Static water level after drilling 5.5 ft.

Water level was measured using m-scope

Well was developed for 1 hours at 1.5 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used x010)	2	12	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1.5	12		#0	
Grout	0	1.5		Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method H.S.A.

Method of development pumping

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type:

Drilling Fluid Potable Water Type of Rig Auger

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company JAMES C. ANDERSON ASSOC. INC.

Well Driller (Print) Wellington Reeve

Driller's Signature Wellington Reeve

Registration No. J1455 Date 1 / 8 / 02

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-10' - Brn f-M Sand, s/ gravel
10-12' - Brn f-M sand, w/ large gravel

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy City, Middlesex County, New Jersey
NJPDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	26-63164
Owner's Well Number (As shown on the application or plans):	MW-76
Well Completion Date:	12-05-01
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	12.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	5.50
Yield (gallons per minutes):	1.00
Length of Time well Pumped or Bailed:	1 Hour 30 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-76

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 17.1" Latitude: North 40° 32' 09.8"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 620,263 East 555,655

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 23.62' (Steel=24.13')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

January 22, 2002
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. [illegible]

Atlas Sheet Coordinates [illegible]

OWNER IDENTIFICATION - Owner CHEVRON PRODUCTS CO
Address 1200 STATE ST
City PERTH AMBOY State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-76R
County MIDDLESEX Municipality PERTH AMBOY CITY Lot No. 1 Block No. 1
Address 1200 STATE ST

DATE WELL STARTED 9/24/02
DATE WELL COMPLETED 9/24/02

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well ISRA Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) URS Tele. # 732-738-2053

WELL CONSTRUCTION

Total depth drilled 12 ft.
Well finished to 12 ft.

Borehole diameter:
Top 12 in.
Bottom 12 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☒ Yes ☐ No

Static water level after drilling 4 ft.

Water level was measured using Tape

Well was developed for 0 hours at 0 gpm

Method of development

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2	12	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1	12	annulus	#1 well Gravel	
Grout	0	1	annulus	Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method H.S.A.

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type:

Drilling Fluid ____ Type of Rig Hurricane

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company ENVIRONMENTAL DRILLING INVEST.

Well Driller (Print) George Boyce

Driller's Signature George Boyce

Registration No. ID 22654 Date 12/5/02

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-12 Red silty sand

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: ____ EASTING: ____

OR

LATITUDE: __ ° __ ' __.__ " LONGITUDE: __ ° __ ' __.__ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-76R

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 17.12" Latitude: North 40° 32' 09.75"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 620,259.5 East 555,654.4

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 22.79' (Steel=23.50')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

February 27, 2003
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 26-63165 of well sealed

DATE WELL SEALED 9-16-04

PROPERTY OWNER Chevron Products Company

ADDRESS 1200 State Street Perth Amboy, NJ 08861

WELL LOCATION 1200 State Street, Perth Amboy, Middlesex
Street & No., Township, County

MW-77 Well No. | 1 Lot No. | 468 / 478.02 Block No.

USE OF WELL PRIOR TO ABANDONMENT: Monitoring

REASON FOR ABANDONMENT: No longer required

WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL

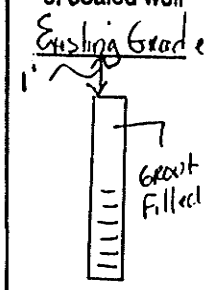
TOTAL DEPTH OF WELL 12
DIAMETER 4"
CASING LENGTH 2
SCREEN LENGTH 10
NUMBER OF CASINGS 1

MATERIAL USED TO DECOMMISSION WELL:

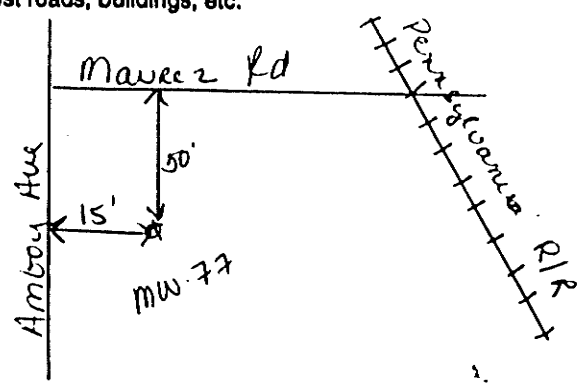
8 Gallons of Water
94 Lbs. of Cement
5 Lbs. of Bentonite
0 Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ___ Consolidated
X Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS:

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Jon R. Urban 125a N. Church St. Moorestown, NJ 08057 — 9-23-04
Performing Work (Print or Type) Name of NJ Licensed Well Driller — Address — Mailing Date

Jon R. Urban — 41386
Signature of NJ Licensed Well Driller Performing Work — Registration #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-133M
2/00

2663163 - THRU - 2663116

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

116

Permit No. _____

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 21 • 441 • 3 16

Owner: Chevron Products Company
Address: 1200 State Street
Perth Amboy, NJ 08810

Driller: JEA Associates, Inc.
Address: 1256 N. Church Street
Moorestown, NJ 08057

Name of Facility: Chevron - Perth Amboy
Address: _____

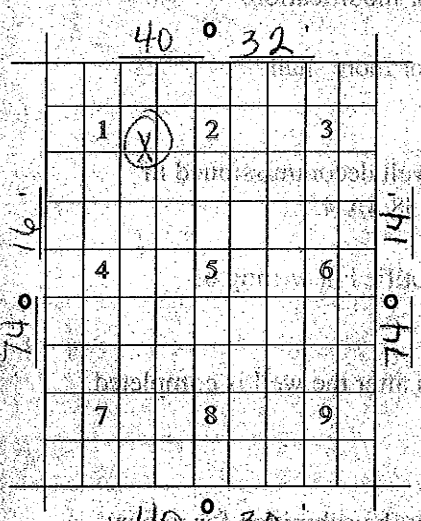
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	10	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	/ cumulative GPM

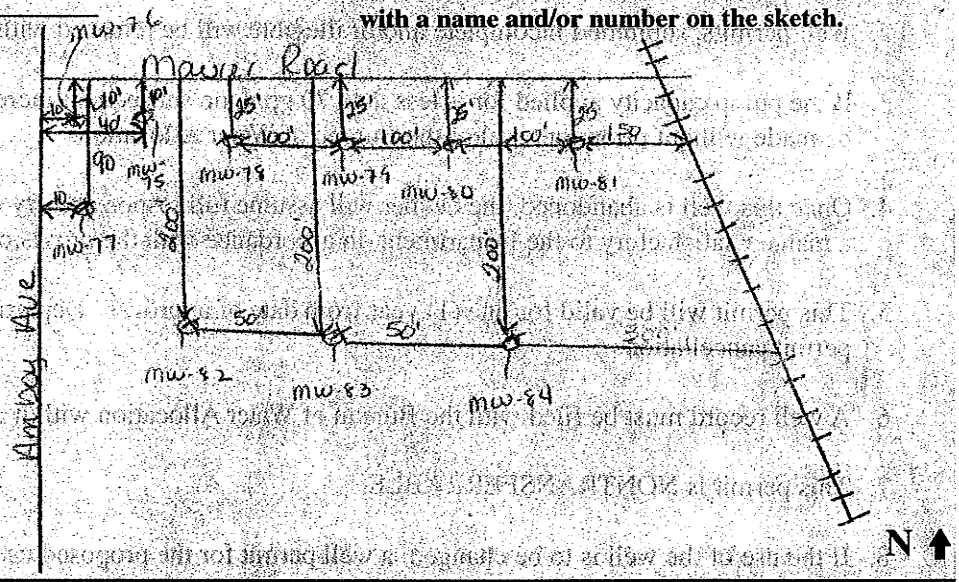
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	468	Perth Amboy	Middlesex

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS: THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☒ Other (explain) Groundwater Monitoring & Sampling

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
NOV 28 2001
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☑ For monitoring purposes only
- ☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 11/21/01 Signature of Driller James W. Duffy Registration No. M1224

Signature of Property Owner Tom Lambert PDP - 732-738-2022

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - _____

Atlas Sheet Coordinates _____ : _____ : _____

OWNER IDENTIFICATION - Owner _____
Address _____
City _____ State _____ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-77
County _____ Municipality _____ Lot No. _____ Block No. _____
Address _____

DATE WELL STARTED 12 / 5 / 01
DATE WELL COMPLETED 12 / 5 / 01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 12 ft.
Well finished to 12 ft.

Borehole diameter:
Top 10 in.
Bottom 10 in.

Well was finished: ☐ above grade
☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☑ Yes ☐ No

Static water level after drilling 5.8 ft.

Water level was measured using M-Scope

Well was developed for .5 hours
at .5 gpm

Method of development pumping

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Potable Water Type of Rig Auger

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2	12	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1.5	12		#0	
Grout	0	1.5		Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method H.S.A.

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-10' - Sand fill, brown f-M sand, tr C sand some clay
10-11' - Fill, Gray clayey f-M sand
11-12' - Native reddish brn silt, sand fill

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company JAMES C. ANDERSON ASSOC. INC.

Well Driller (Print) Wellington Reece

Driller's Signature Wellington Reece

Registration No. J1455 Date 1 / 8 / 02

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy City, Middlesex County, New Jersey
NJPDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	26-63165
Owner's Well Number (As shown on the application or plans):	MW-77
Well Completion Date:	12-05-01
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	12.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	5.80
Yield (gallons per minutes):	.50
Length of Time well Pumped or Bailed:	0 Hour 30 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-77

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 16.9" Latitude: North 40° 32' 09.3"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 620,218 East 555,670

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 23.87' (Steel=24.43')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

January 22, 2002
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
6/04

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

2600085259

MONITORING WELL PERMIT

Permit No. 2600085263

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.31.899

Owner Chevron Products Company
Address 1200 State Street
Perth Amboy, NJ 08861

Driller East Coast Drilling
Address 1256 N. Church Street
Moorestown, NJ 08057

Name of Facility Chevron - Perth Amboy
Address 1200 State Street
Perth Amboy NJ 08861

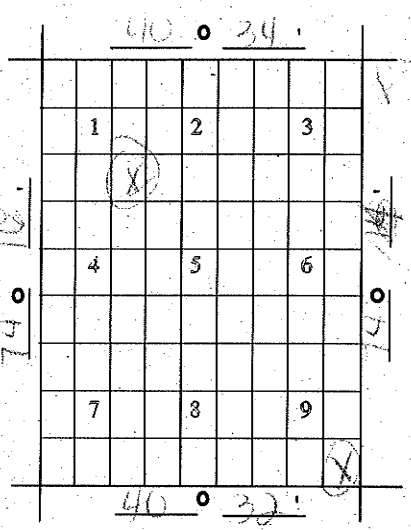
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	20 Feet
# of Wells Applied for (max. 10)	5	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

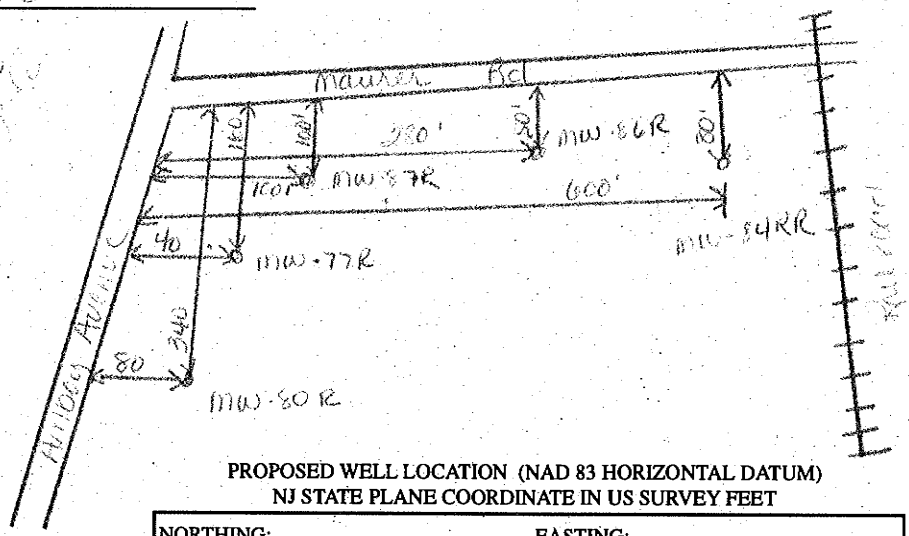
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1.02	465	Perth Amboy	Middlesex

State Atlas Map No. 26

Draw sketch of well(s) nearest roads,buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





N ↑

PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ ° __ ' __ __ " LONGITUDE: __ ° __ ' __ __ "

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☒ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J. D.E.P.
OCT 10 2007
BUREAU OF WATER SYSTEMS & WELL PERMITTING

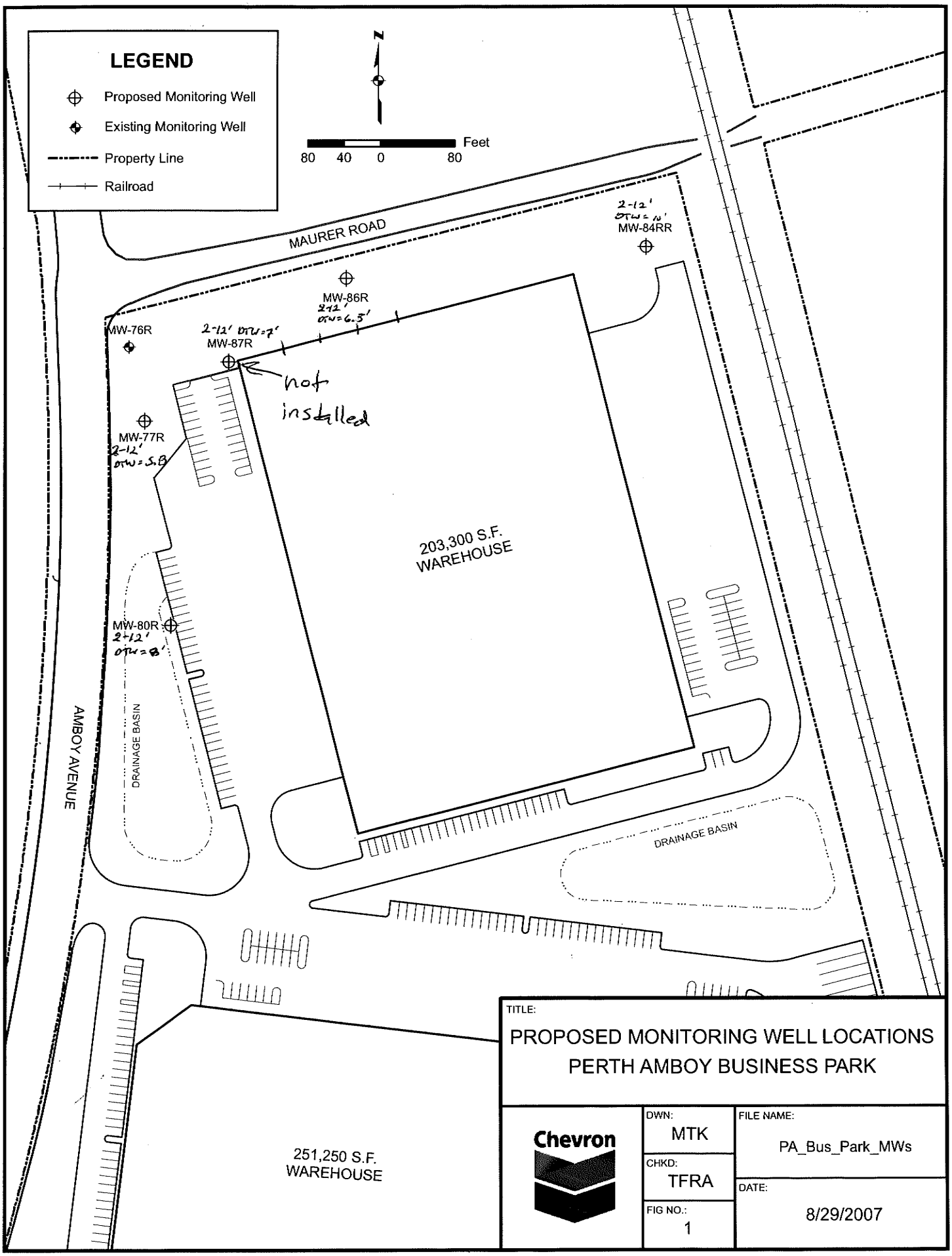
FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐ _____

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 10/1/07 Signature of Driller [illegible] Registration No. [illegible]
Signature of Property Owner Robert Lavorezio

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

Pass c0001



TITLE:

PROPOSED MONITORING WELL LOCATIONS
PERTH AMBOY BUSINESS PARK

Chevron

DWN: MTK	FILE NAME: PA_Bus_Park_MWs
CHKD: TFRA	DATE: 8/29/2007
FIG NO.: 1	

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number
2600085259

MONITORING WELL RECORD

Atlas Sheet Coordinates
2631899

OWNER IDENTIFICATION CHEVRON PRODUCTS COMPANY

Address 1200 STATE STREET

City Perth Amboy State New Jersey Zip Code 08861

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-77R

County Middlesex Municipality Perth Amboy City Lot No. 1.02 Block No. 468

Address 1200 STREET CHEVRON-PERTH AMBOY

WELL USE Monitoring

DATE WELL STARTED 10/22/07

DATE WELL COMPLETED 10/22/07

WELL CONSTRUCTION

Total Depth Drilled 16 ft.

Finished Well Depth 15.9 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height — ft.

(stick up) above land surface

Steel protective casing installed?

☒ Yes ☐ No

Static Water Level after drilling 7.58 ft.

Water Level was Measured Using M-Scope

Well was developed for 1 hours

at 2 gpm

Method of development Pumping

Pump Capacity — gpm

Pump Type —

Drilling Fluid NONE Type of Rig Auger

Health and Safety Plan Submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	5.9	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1010)	5.9	15.9	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	4.9	16		#0	
Grout	0	4.9		Neat Cement Bentonite	188 lbs 10 lbs

Grouting Method Tremie

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-8' Red-Brn. silt

8-12' Gray Silty Sand

12-16 Dk. Gray Clay

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Jon Urban

Driller's Signature Jon Urban

Registration No. MP386 Date 10/24/07

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING:_____ **EASTING:**_____

OR

LATITUDE: __ ° __ ' __._ " **LONGITUDE:** __ ° __ ' __._ "

ORIGINAL: DEP ***COPIES: DRILLER*** ***OWNER*** ***HEALTH DEPARTMENT***

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy, Middlesex, NJ 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	2600085259
Owner's Well Number (As shown on the application or plans):	MW-77R
Well Completion Date:	10-22-07
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	15.90
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	5.90
Screen Length (feet):	10'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	7.58
Yield (gallons per minutes):	2.00
Length of Time well Pumped or Bailed:	1 Hours 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

\\Eng4\drilling\Forms\Form A\26-85259.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-77R**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 17.10"** Latitude: **North 40° 32' 09.11"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **620195.4** East: **555656.2**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **26.74'**
Outer Steel Casing : **27.18'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 26-63168 of well sealed

DATE WELL SEALED 10-30-03

PROPERTY OWNER Chevron Products Company

ADDRESS 1200 State Street, Perth Amboy, NJ 08861

WELL LOCATION 1200 State Street, Perth Amboy, NJ · Middlesex
Street & No., Township, County

Well No.	Lot No.	Block No.
MW-80	1	468 / 484.1

USE OF WELL PRIOR TO ABANDONMENT: Monitoring

REASON FOR ABANDONMENT: No longer Needed

WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL _____

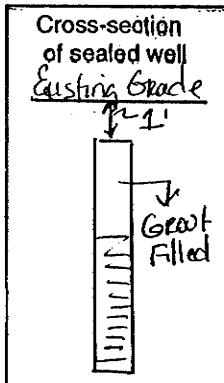
TOTAL DEPTH OF WELL 12'
DIAMETER 4"
CASING LENGTH 4'
SCREEN LENGTH 10'
NUMBER OF CASINGS 1

MATERIAL USED TO DECOMMISSION WELL:

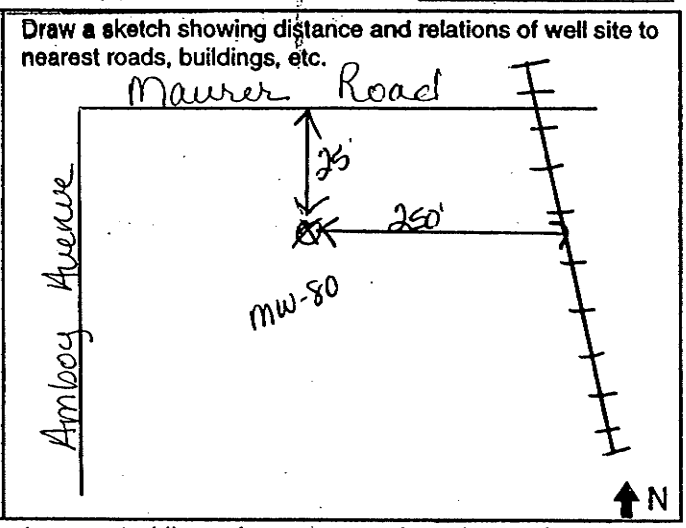
8 Gallons of Water
94 Lbs. of Cement
5 Lbs. of Bentonite
0 Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ____ Consolidated
X Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: Sch 40 PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ ON _____
(NJDEP Official) (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by _____ ON _____
(NJDEP Official) (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Wellington Reeve 1256 N. Church St. Moorestown NJ 08057 11-6-03
Performing Work (Print or Type) Address Mailing Date
Name of NJ Licensed Well Driller

Wellington Reeve J1455
Signature of NJ Licensed Well Driller Performing Work Registration #

COPIES: *White - Water Allocation* *Yellow - Owner* *Pink - Health Dept.* *Goldenrod - Driller*

DWR-133M
2/00

2663163 - THRU - 2663116

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

16

Permit No. _____

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 21 • 241 • 3 16

Owner: Chevron Products Company
Address: 1200 State Street
Perth Amboy, NJ 08810

Driller: JEA Associates, Inc.
Address: 1256 N. Church Street
Moorestown, NJ 08057

Name of Facility: Chevron - Perth Amboy
Address: _____

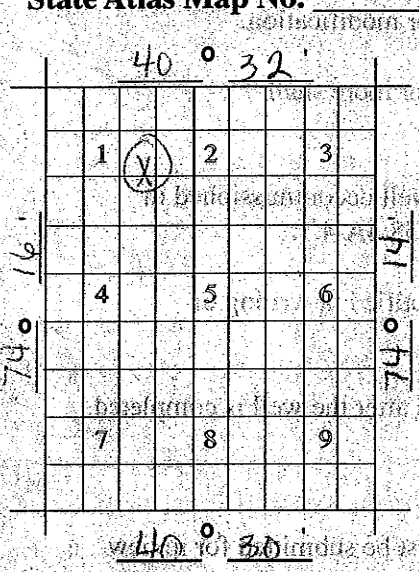
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	10	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	cumulative GPM

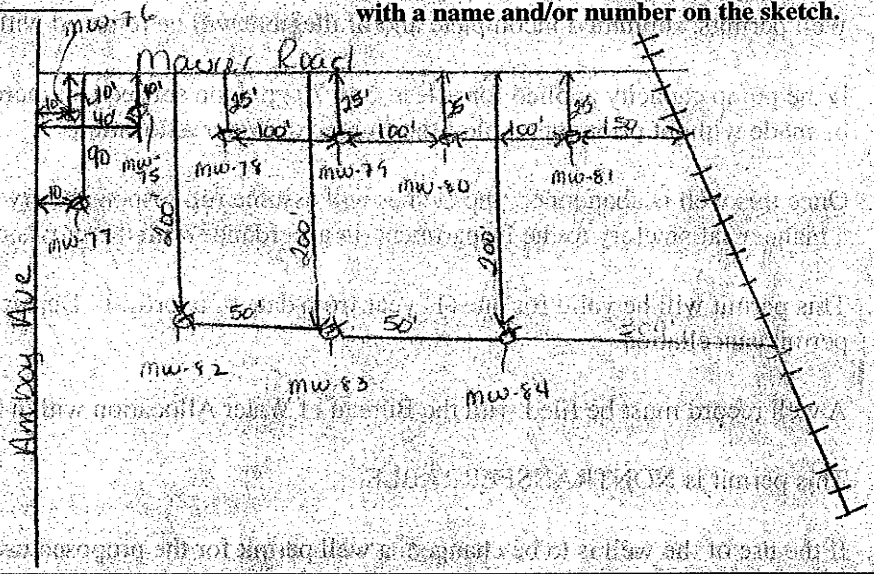
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	4168	Perth Amboy	Middlesex

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☑ Other (explain) Groundwater Monitoring & Sampling

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
NOV 28 2001
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☑ For monitoring purposes only
- ☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 11/21/01 Signature of Driller James W. Duffy Registration No. N1224

Signature of Property Owner Tom Lambert PDP - 732-738-2022

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 63160

Atlas Sheet Coordinates 26 : 41 : 316

OWNER IDENTIFICATION - Owner CHEVRON PRODUCTS COMPANY
Address 1200 STATE STREET
City PERTH AMBOY State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-80
County MIDDLESEX Municipality PERTH AMBOY CITY Lot No. 1 Block No. 463
Address CHEVRON PERTH AMBOY

DATE WELL STARTED 12 / 6 / 01
DATE WELL COMPLETED 12 / 6 / 01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 12.5 ft.
Well finished to 12 ft.

Borehole diameter:
Top 10 in.
Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☑ Yes ☐ No

Static water level after drilling 8.00 ft.

Water level was measured using M-scope

Well was developed for 1 hours at 1 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 10 10)	2	12	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1.5	12.5		#0	
Grout	0	1.5		Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method H.S.A.

Method of development pumping

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity — gpm

Pump type: —

Drilling Fluid None Type of Rig Auger

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company JAMES C. ANDERSON ASSOC. INC.

Well Driller (Print) Wellington Reeve

Driller's Signature Wellington Reeve

Registration No. J1455 Date 1 / 8 / 02

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-2' - Asphalt
2'-8' - Reddish brn f-c sand tr clay
8'-10' - Reddish brn clay to red f. sand tr. silt
10'-12.5' - Native reddish brn f. sand

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy City, Middlesex County, New Jersey
NJPDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	26-63168
Owner's Well Number (As shown on the application or plans):	MW-80
Well Completion Date:	12-06-01
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	12.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	8.00
Yield (gallons per minutes):	1.00
Length of Time well Pumped or Bailed:	1 Hour 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-80

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 16.6" Latitude: North 40° 32' 06.8"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 619,957 East 555,695

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 24.71' (Steel=25.12')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

January 22, 2002
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
6/04

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

2600085259

MONITORING WELL PERMIT

Permit No. 2600085263

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.31.899

Owner Chevron Products Company
Address 1200 State Street
Perth Amboy, NJ 08861

Driller East Coast Drilling
Address 1256 N. Church Street
Moorestown, NJ 08057

Name of Facility Chevron - Perth Amboy
Address 1200 State Street
Perth Amboy NJ 08861

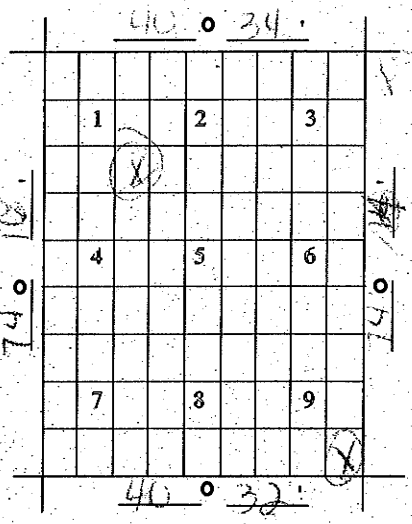
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	20 Feet
# of Wells Applied for (max. 10)	5	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

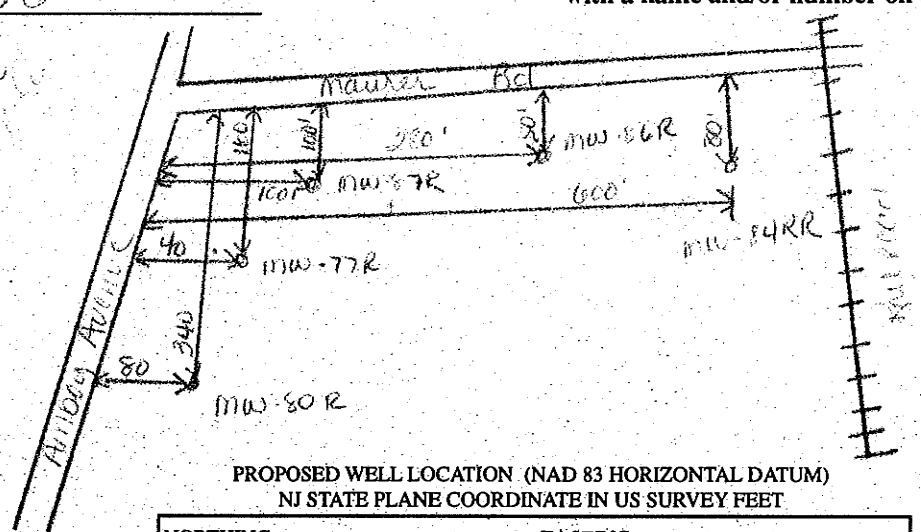
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1.02	465	Perth Amboy	Middlesex

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ o __ ' __ __ " LONGITUDE: __ o __ ' __ __ "

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☒ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number

This Space for Approval Stamp

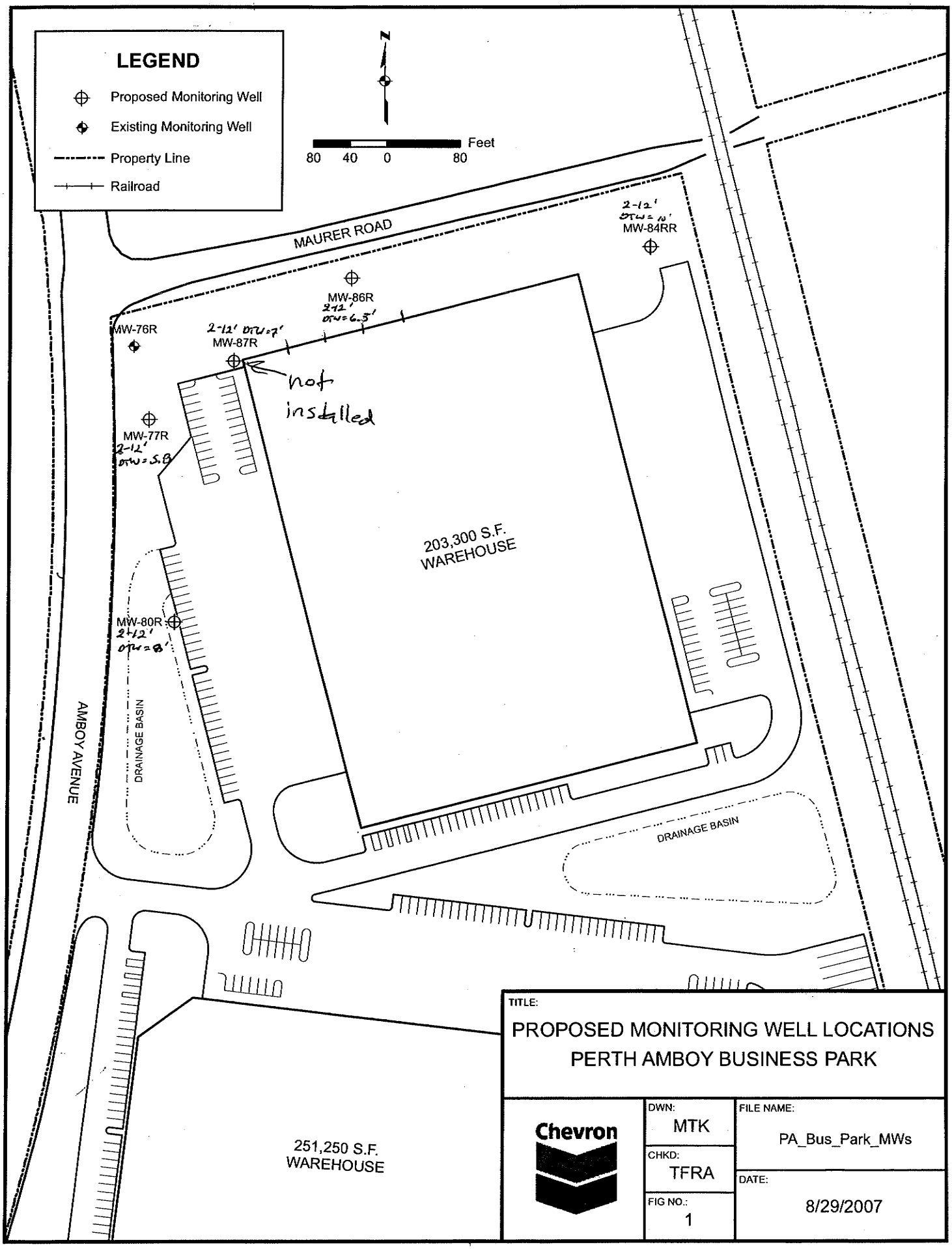
WELL PERMIT APPROVED
N.J. D.E.P.
OCT 10 2007
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 10/1/07 Signature of Driller [illegible] Registration No. [illegible]
Signature of Property Owner Robert Lavorgna

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White


LEGEND
Proposed Monitoring Well
Existing Monitoring Well
Property Line
Railroad
N
Feet
80 40 0 80
MAURER ROAD
MW-84RR
2-12'
DTW=10'
MW-86R
2-12'
DTW=6.5'
MW-76R
2-12' DTW=7'
MW-87R
not installed
MW-77R
2-12'
DTW=5.8
203,300 S.F.
WAREHOUSE
MW-80R
2-12'
DTW=8'
DRAINAGE BASIN
AMBOY AVENUE
DRAINAGE BASIN
251,250 S.F.
WAREHOUSE
TITLE:
PROPOSED MONITORING WELL LOCATIONS
PERTH AMBOY BUSINESS PARK
Chevron
DWN: MTK
CHKD: TFRA
FIG NO.: 1
FILE NAME: PA_Bus_Park_MWs
DATE: 8/29/2007

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number 2600085260

MONITORING WELL RECORD

Atlas Sheet Coordinates 2631899

OWNER IDENTIFICATION CHEVRON PRODUCTS COMPANY

Address 1200 STATE STREET

City Perth Amboy State New Jersey Zip Code 08861

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-80R

County Middlesex Municipality Perth Amboy City Lot No. 1.02 Block No. 468

Address 1200 STATE STREET CHEVRON-PERTH AMBOY

WELL USE Monitoring

DATE WELL STARTED 10/21/07

DATE WELL COMPLETED 10/21/07

WELL CONSTRUCTION

Total Depth Drilled 15 ft.

Finished Well Depth 14.5 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height — ft.

(stick up) above land surface

Steel protective casing installed?

☒ Yes ☐ No

Static Water Level after drilling 13.3 ft.

Water Level was Measured Using M-Scope

Well was developed for 2 hours

at 15 gpm

Method of development Pumping

Pump Capacity — gpm

Pump Type —

Drilling Fluid NONE Type of Rig Auger

Health and Safety Plan Submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	4.5	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 10/10)	4.5	14.5	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	3	15		#0	
Grout	0	3		Neat Cement Bentonite	141 lbs 7 lbs

Grouting Method Gravity Placement

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-6' Silt
6-9' Red-Brn. silty fine sand
9-10' Red-Brn. silt
10-12' Red. Brn. silty sand
12-15' Red-Brn. silt.

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Jon Urban

Driller's Signature Jon Urban

Registration No. M1386 Date 10/24/07

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING:_____ **EASTING:**_____

OR

LATITUDE: ___° ___' ___.__" **LONGITUDE:** ___° ___' ___.__"

ORIGINAL: DEP ***COPIES: DRILLER*** ***OWNER*** ***HEALTH DEPARTMENT***

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy, Middlesex, NJ 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	2600085260
Owner's Well Number (As shown on the application or plans):	MW-80R
Well Completion Date:	10-21-07
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	14.50
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	4.50
Screen Length (feet):	10'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	13.30
Yield (gallons per minutes):	0.50
Length of Time well Pumped or Bailed:	2 Hours 0 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

\\Eng4\drilling\Forms\Form A\26-85260.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-80R**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 16.74"** Latitude: **North 40° 32' 06.79"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **619959.9** East: **555684.1**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **25.72'**
Outer Steel Casing : **26.26'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR 020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: **Bureau of Water Allocation**
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 26-63172 of well sealed

DATE WELL SEALED 12/12/02

PROPERTY OWNER Chevron Products Company

ADDRESS 1200 State Street, Perth Amboy, NJ

WELL LOCATION 1200 State Street, Perth Amboy, Middlesex
Street & No., Township, County

MW-84 Well No. | 1 Lot No. | 486 Block No.

USE OF WELL PRIOR TO ABANDONMENT: Monitoring

REASON FOR ABANDONMENT: no longer needed

WAS A NEW WELL DRILLED? ☐ YES ☒ NO **PERMIT # OF NEW WELL** _____

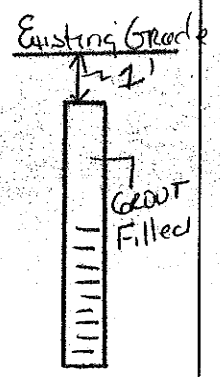
TOTAL DEPTH OF WELL 12
DIAMETER 4
CASING LENGTH 2
SCREEN LENGTH 10
NUMBER OF CASINGS 1

MATERIAL USED TO DECOMMISSION WELL:

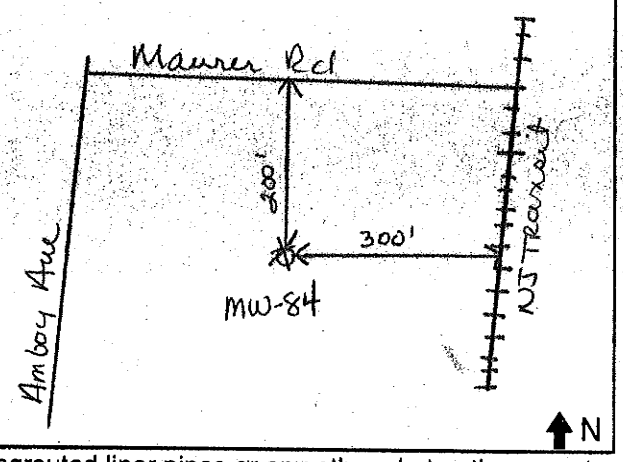
8 Gallons of Water
94 Lbs. of Cement
5 Lbs. of Bentonite
0 Lbs. of Sand/Gravel (none if well is contaminated)

FORMATION: ____ Consolidated
X Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: Sch 40 PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Steve Moylan, 1256 W. Church St, Moorestown, NJ — 1-2-03
Performing Work (Print or Type) Name of NJ Licensed Well Driller — Address — Mailing Date

Steve Moylan — JD0022215
Signature of NJ Licensed Well Driller Performing Work — Registration #

COPIES: *White - Water Allocation* *Yellow - Owner* *Pink - Health Dept.* *Goldenrod - Driller*

DWR-133M
2/00

2663163 - THRU - 2663176

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

16

Permit No. _____

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26 • 44 • 3 16

Owner: Chevron Products Company
Address: 1200 State Street
Perth Amboy, NJ 08810

Driller: JEA Associates, Inc.
Address: 1256 N. Church Street
Moorestown, NJ 08057

Name of Facility: Chevron - Perth Amboy
Address: _____

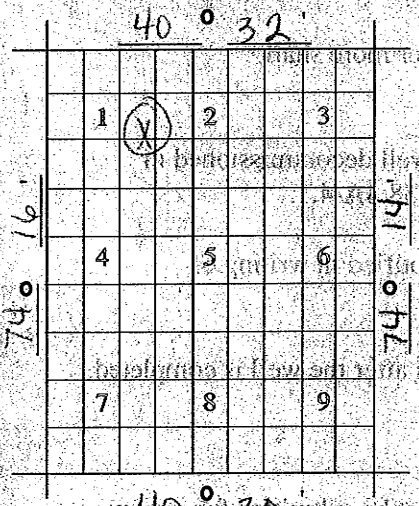
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	10	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	cumulative GPM

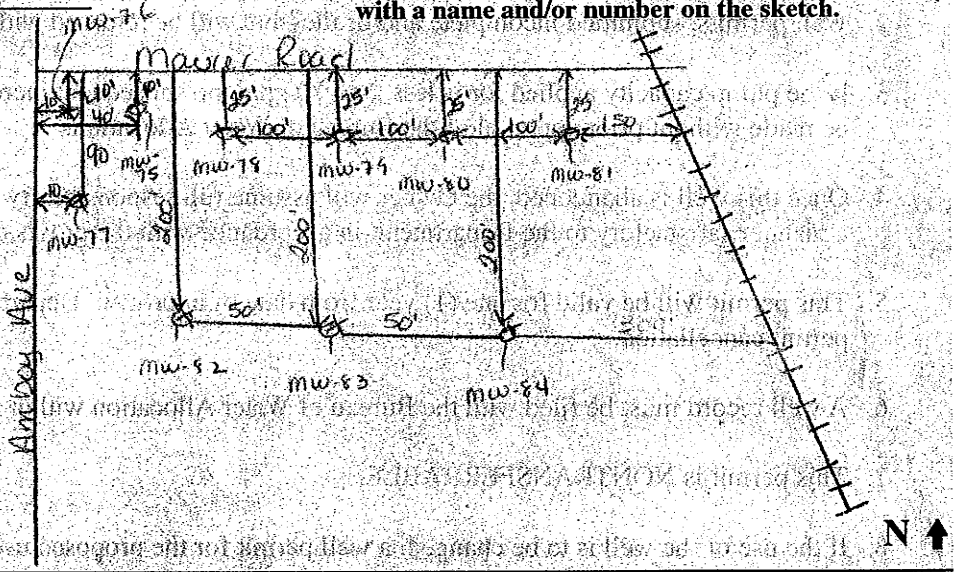
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	468	Perth Amboy	Middlesex

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☑ Other (explain) Groundwater Monitoring + Sampling

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
NOV 28 2001
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☑ For monitoring purposes only
- ☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 11/21/01 Signature of Driller James W. Duffy Registration No. M1224

Signature of Property Owner Tom Lambert POP - 732-738-2022

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. _____ - 26 [illegible]

Atlas Sheet Coordinates 26 : 41 : 316

OWNER IDENTIFICATION - Owner CHEVRON PRODUCTS COMPANY
Address 1200 STATE STREET
City PERTH AMBOY State NJ Zip Code _____

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-84
County MIDDLESEX Municipality PERTH AMBOY CITY Lot No. [illegible] Block No. [illegible]
Address CHEVRON PERTH AMBOY

DATE WELL STARTED 12 / 11 / 01
DATE WELL COMPLETED 12 / 11 / 01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well _____ Case I.D.# _____

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) _____ Tele. # _____

WELL CONSTRUCTION

Total depth drilled 12.5 ft.
Well finished to 12 ft.

Borehole diameter:
Top 10 in.
Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed? ☑ Yes ☐ No

Static water level after drilling 10 ft.

Water level was measured using M-Scope

Well was developed for 1 hours at 15 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1010)	2	12	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1.5	12.5		#0	
Grout	0	1.5		Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method H.S.A.

Method of development pumping

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Potable Water Type of Rig Auger

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company JAMES C. ANDERSON ASSOC., INC.

Well Driller (Print) Wellington Reeve

Driller's Signature Wellington Reeve

Registration No. JTH55 Date 1 / 8 / 02

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-2' - Brown f.c. sand + gravel
2-6' - Brown f.y. sandy clay, tr. gravel
6-8' - Lt brown f.y. sand
8-10' - Reddish brown glacial till
10-12.5' - Reddish brown f. sand

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy City, Middlesex County, New Jersey
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	26-63172
Owner's Well Number (As shown on the application or plans):	MW-84
Well Completion Date:	12-11-01
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	12.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	10.00
Yield (gallons per minutes):	0.50
Length of Time well Pumped or Bailed:	1 Hour 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W. Duffy
Signature

M1224
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-84

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 09.7" Latitude: North 40° 32' 10.6"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 620,352 East 556,222

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 15.60' (Steel=16.07')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

January 22, 2002
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 26-65788 of well sealed

DATE WELL SEALED 10-31-03

PROPERTY OWNER Chevron Products Company

ADDRESS 1200 State Street, Perth Amboy, NJ 08861

WELL LOCATION 1200 State Street, Perth Amboy, NJ · Middlesex
Street & No., Township, County

MW-84R	1	468 / 484.1
Well No.	Lot No.	Block No.

USE OF WELL PRIOR TO ABANDONMENT: Monitoring

REASON FOR ABANDONMENT: No longer Needed

WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL

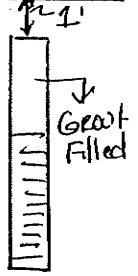
TOTAL DEPTH OF WELL 12'
DIAMETER 4"
CASING LENGTH 2'
SCREEN LENGTH 10'
NUMBER OF CASINGS 1

MATERIAL USED TO DECOMMISSION WELL:

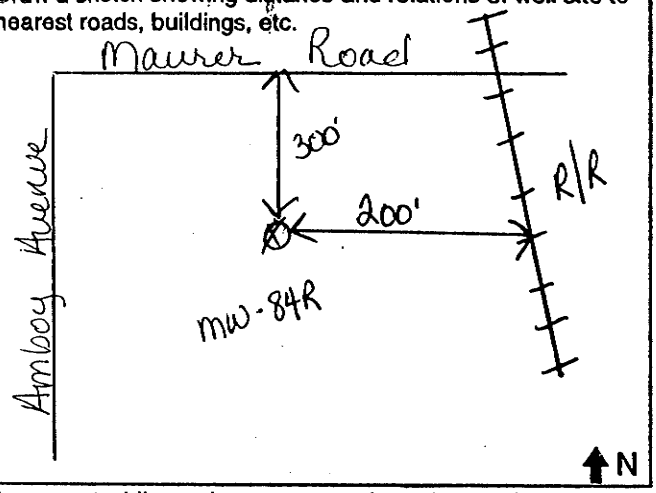
8 Gallons of Water
94 Lbs. of Cement
2 Lbs. of Bentonite
0 Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ___ Consolidated
X Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: Sch 40 PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS:

IF "YES", AUTHORIZATION GRANTED BY ___ (NJDEP Official) ON ___ (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by ___ (NJDEP Official) ON ___ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Wellington Reeve	1256 N. Church St. Moorestown NJ 08057	11-6-03
Performing Work (Print or Type) Name of NJ Licensed Well Driller	Address	Mailing Date
Wellington Reeve		J 1455
Signature of NJ Licensed Well Driller Performing Work		Registration #

COPIES: White - Water Allocation Yellow - Owner Pink - Health Dept. Goldenrod - Driller

DWR-133M
2/00

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Permit No. _____

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

COORD #: • •

Owner _____

Address _____

Name of Facility _____

Address _____

Driller _____

Address _____

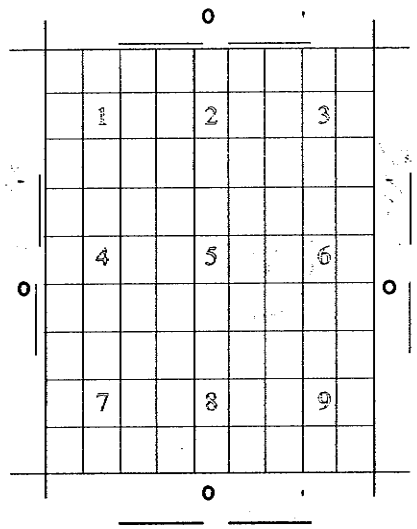
Diameter of Well(s) Inches	Proposed Depth of Well(s) Feet
# of Wells Applied for (max. 10)	Will pumping equipment be utilized? YES ☐ NO ☐
Type of Well (see reverse)	If Yes, give pump capacity cumulative GPM

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County

State Atlas Map No. _____

Draw sketch of well(s) nearest roads,buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



N

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)_____

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
SEP 24 2001
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐ _____
- ☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date _____ Signature of Driller _____ Registration No. _____

Signature of Property Owner _____

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26- 65788

Atlas Sheet Coordinates 26 : 31 : 361

OWNER IDENTIFICATION - Owner CHEVRON PRODUCTS CO
Address 1200 STATE ST
City PERTH AMBOY State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW 84 R
County MIDDLESEX Municipality PERTH AMBOY CIT Lot No. 1 Block No. 168
Address 1200 STATE ST

DATE WELL STARTED 9 / 24 / 02
DATE WELL COMPLETED 9 / 24 / 02

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well ISRA Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) URS Tele. # 732-738-2053

WELL CONSTRUCTION

Total depth drilled 12 ft.
Well finished to 12 ft.

Borehole diameter:
Top 12 in.
Bottom 12 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☒ Yes ☐ No

Static water level after drilling 4 ft.

Water level was measured using Tape

Well was developed for 0 hours at 0 gpm

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2	12	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1	12	annulus	#1 Well Gravel	
Grout	0	1	annulus	Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method H.S.A

Method of development

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity ____ gpm

Pump type:

Drilling Fluid ____ Type of Rig Hurricane

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company ENVIRONMENTAL PROBING INVEST.

Well Driller (Print) George Boyce

Driller's Signature George Boyce

Registration No. JD22654 Date 12 / 5 / 02

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-12 Red silty sand

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ **EASTING:** _____
OR
LATITUDE: __ ° __ ' __ . __ " **LONGITUDE:** __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-84R

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 09.68" Latitude: North 40° 32' 10.68"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 620,355.7 East 556,228.5

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 15.88' (Steel=16.13')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

February 27, 2003
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
6/04

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

2600085254
[illegible]

MONITORING WELL PERMIT

Permit No. 2600085263

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.31.899

Owner Chevron Products Company
Address 1200 State Street
Perth Amboy, NJ 08861

Driller East Coast Drilling
Address 1256 N. Church Street
Moorestown, NJ 08057

Name of Facility Chevron - Perth Amboy
Address 1200 State Street
Perth Amboy NJ 08861

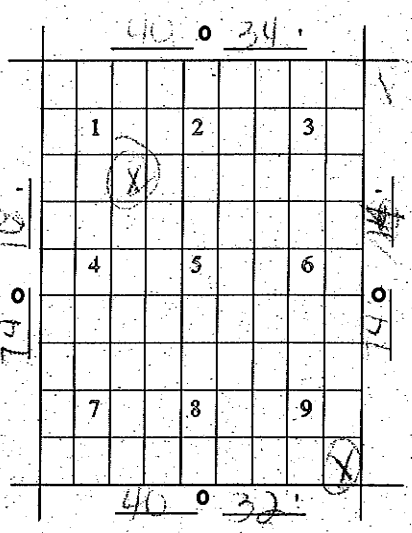
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	20 [illegible] Feet
# of Wells Applied for (max. 10)	5	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	[illegible]	If Yes, give pump capacity	— cumulative GPM

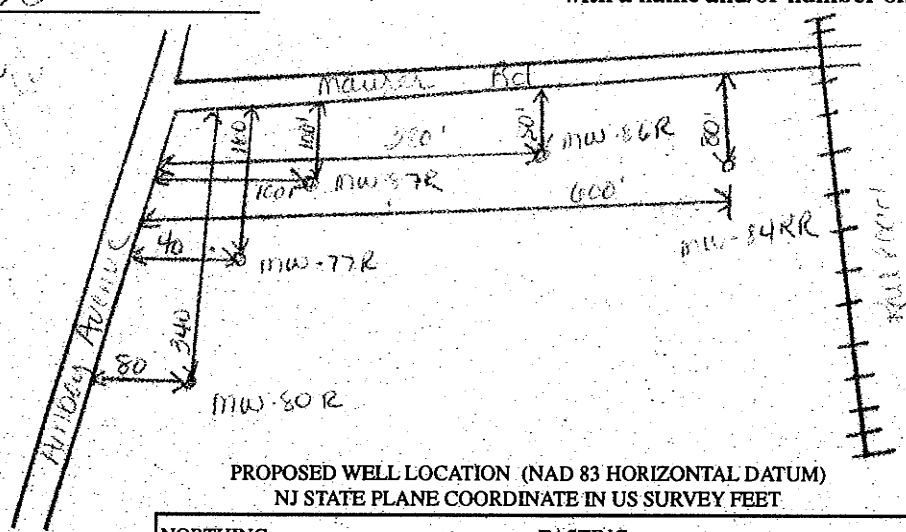
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1.02	465	[illegible]	[illegible]

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ o __ ' __ __ " LONGITUDE: __ o __ ' __ __ "

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☒ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____
- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number _____

This Space for Approval Stamp

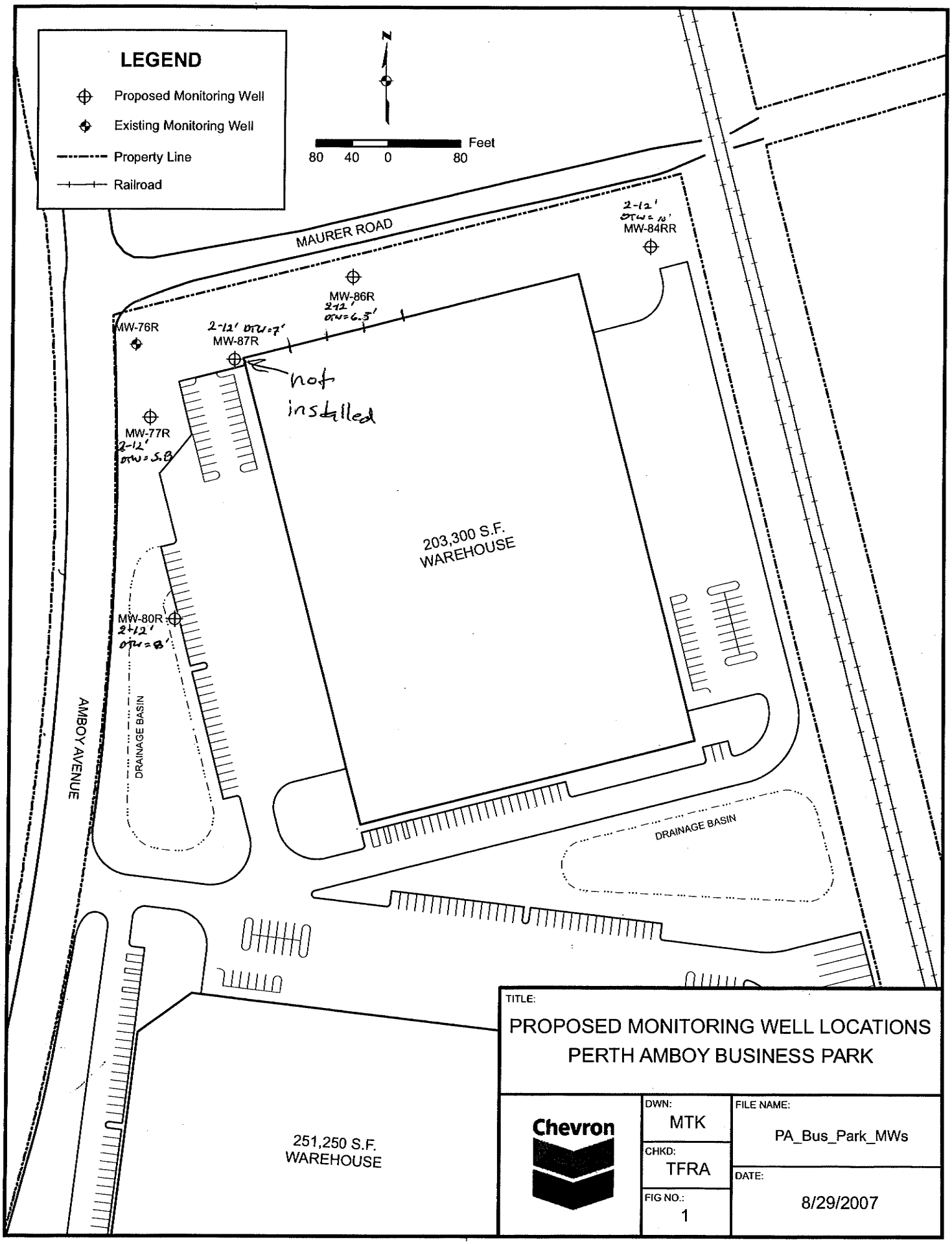
WELL PERMIT APPROVED
N.J. D.E.P.
OCT 10 2007
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached. (see next page) ☒ For monitoring purposes only ☐ _____

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 10/1/07 Signature of Driller [illegible] Registration No. [illegible]
Signature of Property Owner [illegible]

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White


LEGEND
Proposed Monitoring Well
Existing Monitoring Well
Property Line
Railroad
N
Feet
80 40 0 80
MAURER ROAD
2-12'
DTW = 10'
MW-84RR
MW-86R
2-12'
DTW = 6.5'
MW-76R
2-12' DTW = 7'
MW-87R
not installed
MW-77R
2-12'
DTW = 5.8
203,300 S.F.
WAREHOUSE
MW-80R
2-12'
DTW = 8'
DRAINAGE BASIN
AMBOY AVENUE
DRAINAGE BASIN
251,250 S.F.
WAREHOUSE
TITLE:
PROPOSED MONITORING WELL LOCATIONS
PERTH AMBOY BUSINESS PARK
Chevron
DWN:
MTK
CHKD:
TFRA
FIG NO.:
1
FILE NAME:
PA_Bus_Park_MWs
DATE:
8/29/2007

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number 2600085261

MONITORING WELL RECORD

Atlas Sheet Coordinates 2631899

OWNER IDENTIFICATION CHEVRON PRODUCTS COMPANY

Address 1200 STATE STREET

City Perth Amboy State New Jersey Zip Code 08861

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-84 RR

County Middlesex Municipality Perth Amboy City Lot No. 1.02 Block No. 468

Address 1200 STATE STREET CHEVRON-PERTH AMBOY

WELL USE Monitoring

DATE WELL STARTED 10/23/07

DATE WELL COMPLETED 10/23/07

WELL CONSTRUCTION

Total Depth Drilled 12.5 ft.

Finished Well Depth 12 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height — ft.

(stick up) above land surface

Steel protective casing installed?

☒ Yes ☐ No

Static Water Level after drilling 4.6 ft.

Water Level was Measured Using M-Scope

Well was developed for 1.25 hours

at .5 gpm

Method of development Pumping

Pump Capacity — gpm

Pump Type —

Drilling Fluid NONE Type of Rig Auger

Health and Safety Plan Submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2	12	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1	12.5		#0	
Grout	0	1		Neat Cement Bentonite	94 lbs 5 lbs

Grouting Method Gravity Placement

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-7' Silt w/ some fine sand

7-12.5 Yellow-Orange to gray silty fine sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Jon Urban

Driller's Signature Jon Urban

Registration No. M1386 Date 10/24/07

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING:_____ **EASTING:**_____

OR

LATITUDE: ___ ° ___ ' ___.__ " **LONGITUDE:** ___ ° ___ ' ___.__ "

ORIGINAL: DEP ***COPIES: DRILLER*** ***OWNER*** ***HEALTH DEPARTMENT***

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy, Middlesex, NJ 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	2 6 0 0 0 8 5 2 6 1
Owner's Well Number (As shown on the application or plans):	MW-84RR
Well Completion Date:	10-23-07
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	12.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.00
Screen Length (feet):	10'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	4.60
Yield (gallons per minutes):	0.50
Length of Time well Pumped or Bailed:	1 Hours 25 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

\\Eng4\drilling\Forms\Form A\26-85261.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-84RR**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 09.87"** Latitude: **North 40° 32' 11.38"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **620426.2** East: **556213.6**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **13.70'**
Outer Steel Casing : **14.15'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-020
1/02

New Jersey Department of Environmental Protection
Water Supply Element - Bureau of Water Allocation

WELL ABANDONMENT REPORT

MAIL TO: Bureau of Water Allocation
PO Box 426
Trenton, NJ 08625-0426

WELL PERMIT # 26-63159 of well sealed

DATE WELL SEALED 10-31-03

PROPERTY OWNER Chevron Products Company

ADDRESS 1200 State Street, Perth Amboy, NJ 08861

WELL LOCATION 1200 State Street, Perth Amboy, NJ · Middlesex
Street & No., Township, County

MW-86 (Well No.) | 1 (Lot No.) | 468 / 484.1 (Block No.)

USE OF WELL PRIOR TO ABANDONMENT: Monitoring

REASON FOR ABANDONMENT: No longer Needed

WAS A NEW WELL DRILLED? ☐ YES ☒ NO PERMIT # OF NEW WELL _____

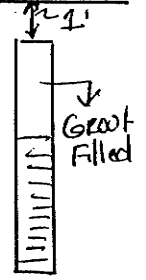
TOTAL DEPTH OF WELL 12'
DIAMETER 4"
CASING LENGTH 2'
SCREEN LENGTH 10'
NUMBER OF CASINGS 1

MATERIAL USED TO DECOMMISSION WELL:

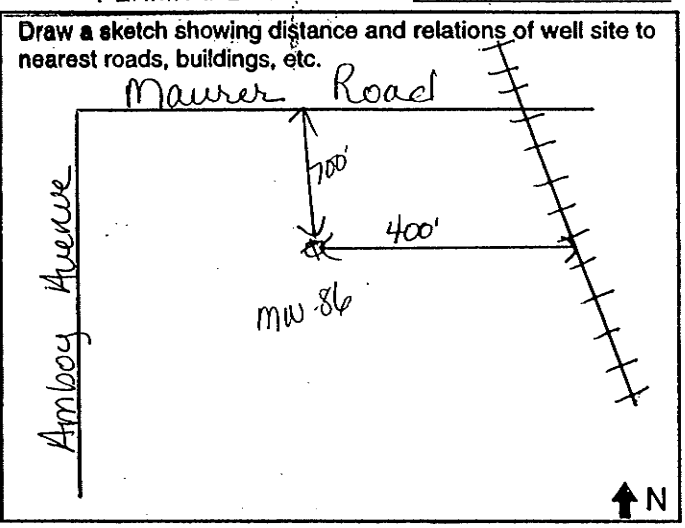
8 Gallons of Water
94 Lbs. of Cement
3 Lbs. of Bentonite
0 Lbs. of Sand/Gravel
(none if well is contaminated)

FORMATION: ___ Consolidated
X Unconsolidated

Cross-section of sealed well



Draw a sketch showing distance and relations of well site to nearest roads, buildings, etc.



To permit adequate grouting, the casing should remain in place, but ungrouted liner pipes or any other obstructions must be removed. Pressure grouting is the only accepted method.

WAS CASING LEFT IN PLACE? ☒ YES ☐ NO CASING MATERIAL: Sch 40 PVC

WERE OTHER OBSTRUCTIONS LEFT IN WELL? ☐ YES ☒ NO WHAT WERE THE OBSTRUCTIONS: _____

IF "YES", AUTHORIZATION GRANTED BY _____ (NJDEP Official) ON _____ (Date)

Was an alternative decommissioning method used? ☐ YES ☒ NO

IF "YES", authorization granted by _____ (NJDEP Official) ON _____ (Date)

I certify that this well was sealed in accordance with N.J.A.C. 7:9D-3 et seq.

Wellington Reeve 1256 N. Church St. Moorestown NJ 08057 11-6-03
Performing Work (Print or Type) Name of NJ Licensed Well Driller | Address | Mailing Date

Wellington Reeve
Signature of NJ Licensed Well Driller Performing Work

J1455
Registration #

COPIES: *White - Water Allocation* *Yellow - Owner* *Pink - Health Dept.* *Goldenrod - Driller*

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 03150

Atlas Sheet Coordinates 26 : 11 : 116

OWNER IDENTIFICATION - Owner
Address CHEVRON PRODUCTS COMPANY
City 1200 STATE STREET State NJ Zip Code
PERTH AMBOY

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-86
County MIDDLESEX Municipality PERTH AMBOY CITY Lot No. 1 Block No. 166
Address CHEVRON PERTH AMBOY

DATE WELL STARTED 12 / 11 / 01
DATE WELL COMPLETED 12 / 11 / 01

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 12 ft.
Well finished to 12 ft.

Borehole diameter:
Top 10 in.
Bottom 10 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height (stick up) above land surface ____ ft.

Was steel protective casing installed? ☒ Yes ☐ No

Static water level after drilling 6.5 ft.

Water level was measured using M-Scope

Well was developed for 1 hours at 1 gpm

Method of development pump purge

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid None Type of Rig Auger

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None D C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2	12	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1.5	12		#0	
Grout	0	1.5		Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-2' Gravel, trace f-c sand
2'-6' Brn.-Gray clay, trace f. sand
6'-8' Lt. Brn. f-m sand
8'-10' Dark Gray sandy clay
10'-12' Same - Saturated last 6".

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company JAMES C. ANDERSON ASSOC., INC.

Well Driller (Print) Wellington Reeve

Driller's Signature Wellington Reeve

Registration No. J1455 Date 1 / 8 / 02

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: __ ° __ ' __.__ " LONGITUDE: __ ° __ ' __.__ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy City, Middlesex County, New Jersey
NJPDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	26-63159
Owner's Well Number (As shown on the application or plans):	MW-86
Well Completion Date:	12-11-01
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	12.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	6.50
Yield (gallons per minutes):	1.00
Length of Time well Pumped or Bailed:	1 Hour 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-86

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 14.0" Latitude: North 40° 32' 10.1"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 620,296 East 555,891

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 20.17' (Steel=20.55')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

January 22, 2002
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
6/04

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

2600085259

MONITORING WELL PERMIT

Permit No. 2600085263

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.31.899

Owner Chevron Products Company
Address 1200 State Street
Perth Amboy, NJ 08861

Driller East Coast Drilling
Address 1256 N. Church Street
Moorestown, NJ 08057

Name of Facility Chevron - Perth Amboy
Address 1200 State Street
Perth Amboy NJ 08861

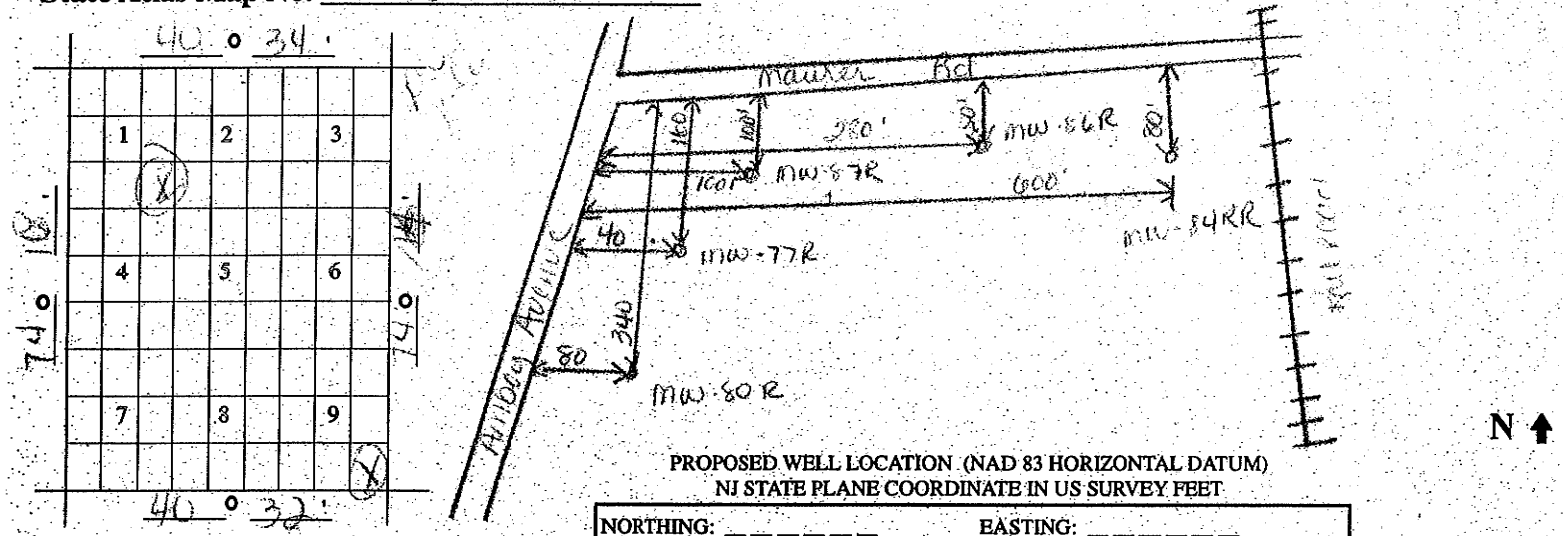
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	20 Feet
# of Wells Applied for (max. 10)	5	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1.02	465	Perth Amboy	Middlesex

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____
OR
LATITUDE: __ ° __ ' __ " LONGITUDE: __ ° __ ' __ "

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☒ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J. D.E.P.
OCT 10 2007
BUREAU OF WATER SYSTEMS & WELL PERMITTING

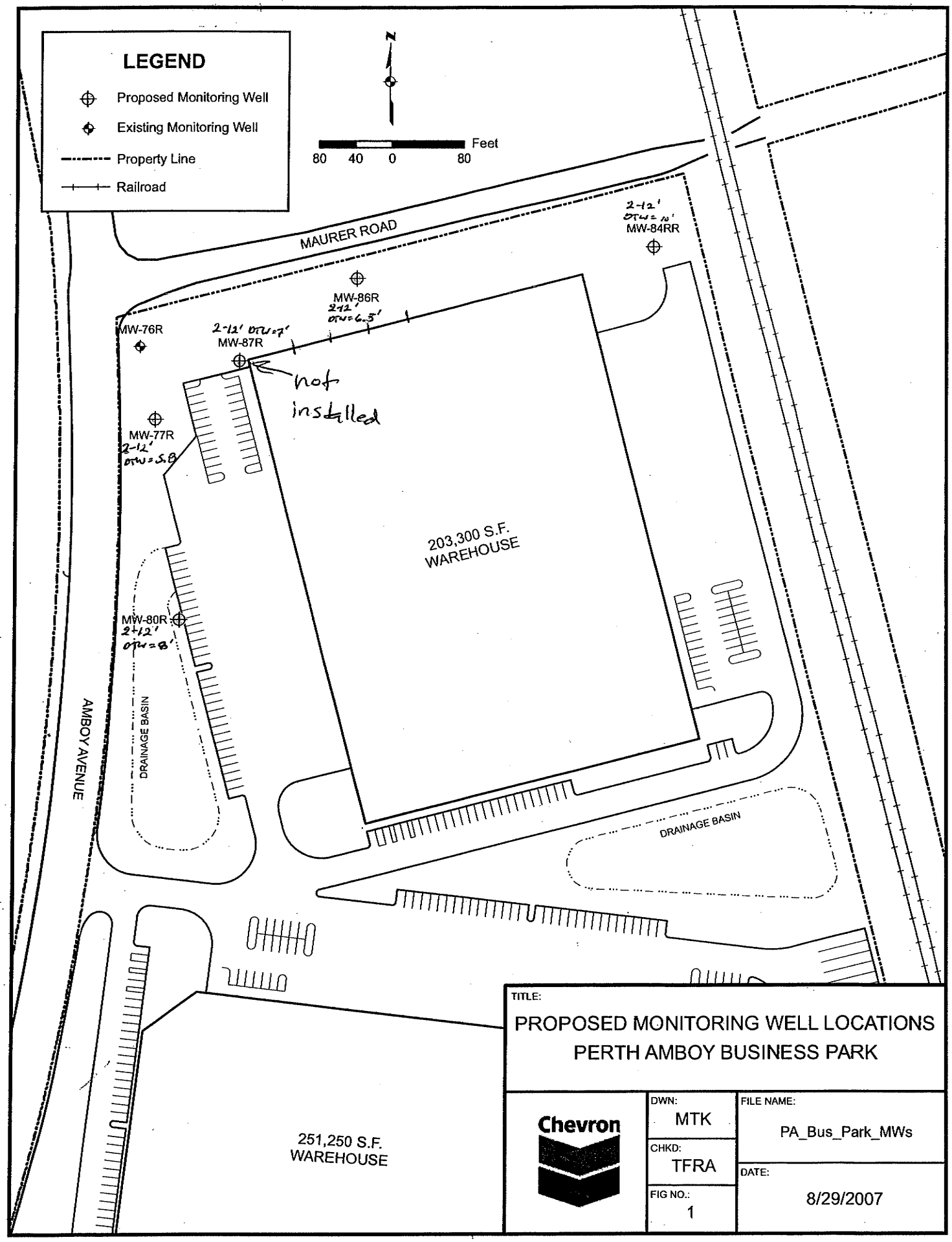
2007 OCT -3 AM 8:20

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☐

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 10/1/07 Signature of Driller James W. [illegible] Registration No. M1204
Signature of Property Owner Robert Lavorgio

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White


LEGEND
Proposed Monitoring Well
Existing Monitoring Well
Property Line
Railroad
N
Feet
80 40 0 80
MAURER ROAD
2-12' DTW=10'
MW-84RR
MW-86R
2-12'
DTW=6.5'
MW-76R
2-12' DTW=7'
MW-87R
not installed
MW-77R
2-12'
DTW=5.8
203,300 S.F.
WAREHOUSE
MW-80R
2-12'
DTW=8'
DRAINAGE BASIN
AMBOY AVENUE
DRAINAGE BASIN
251,250 S.F.
WAREHOUSE
TITLE:
PROPOSED MONITORING WELL LOCATIONS
PERTH AMBOY BUSINESS PARK
Chevron
DWN: MTK
CHKD: TFRA
FIG NO.: 1
FILE NAME: PA_Bus_Park_MWs
DATE: 8/29/2007

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number 2600085262

MONITORING WELL RECORD

Atlas Sheet Coordinates 2631899

OWNER IDENTIFICATION CHEVRON PRODUCTS COMPANY

Address 1200 STATE STREET

City Perth Amboy State New Jersey Zip Code 08861

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-86R

County Middlesex Municipality Perth Amboy City Lot No. 1.02 Block No. 468

Address 1200 STREET CHEVRON-PERTH AMBOY

WELL USE Monitoring

DATE WELL STARTED 10/23/07

DATE WELL COMPLETED 10/23/07

WELL CONSTRUCTION

Total Depth Drilled 15.5 ft.

Finished Well Depth 15 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☒ flush mounted

If finished above grade, casing height — ft.

(stick up) above land surface

Steel protective casing installed?

☒ Yes ☐ No

Static Water Level after drilling 7.21 ft.

Water Level was Measured Using M-Scope

Well was developed for 1 hours

at 2.5 gpm

Method of development pumping

Pump Capacity — gpm

Pump Type —

Drilling Fluid NONE Type of Rig Auger

Health and Safety Plan Submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	5	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	5	15	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	3	15.5		#0	
Grout	0	3		Neat Cement Bentonite	141 lbs 7 lbs

Grouting Method Tremie

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-3' Clay & silt

3-6' Brn. silty sand

6-12' Brn.-Gray silty clay w/ f-c sand

12-15.5' Brn.-Gray silty sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) JON URBAN

Driller's Signature Jon Urban

Registration No. M1386 Date 10/24/07

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ **EASTING:** _____

OR

LATITUDE: ___ ° ___ ' ___.__ " **LONGITUDE:** ___ ° ___ ' ___.__ "

ORIGINAL: DEP ***COPIES: DRILLER*** ***OWNER*** ***HEALTH DEPARTMENT***

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy, Middlesex, NJ 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	2 6 0 0 0 8 5 2 6 2
Owner's Well Number (As shown on the application or plans):	MW-86R
Well Completion Date:	10-23-07
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	15.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	5.00
Screen Length (feet):	10'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	7.21
Yield (gallons per minutes):	> 0.50
Length of Time well Pumped or Bailed:	1 Hours 0 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

\\Eng4\drilling\Forms\Form A\26-85262.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-86R**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 13.97"** Latitude: **North 40° 32' 10.65"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **620351.0** East: **555897.1**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **18.82'**
Outer Steel Casing : **19.30'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2019

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
2/00

2663557
thw
2663566

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. _____

COORD #: . . .

Owner Chevron Products Company
Address 1200 State Street
Perth Amboy, NJ 08861

Driller JCA Associates Jr
Address 1256 N. Church Street
Moorestown, NJ 08057

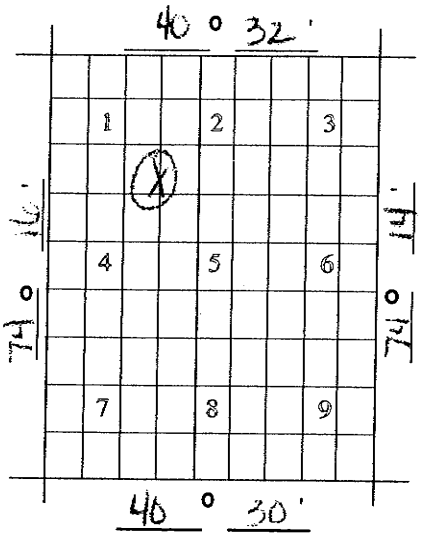
Name of Facility Chevron - Perth Amboy
Address Same

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	26 Feet
# of Wells Applied for (max. 10)	10	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	——— cumulative GPM

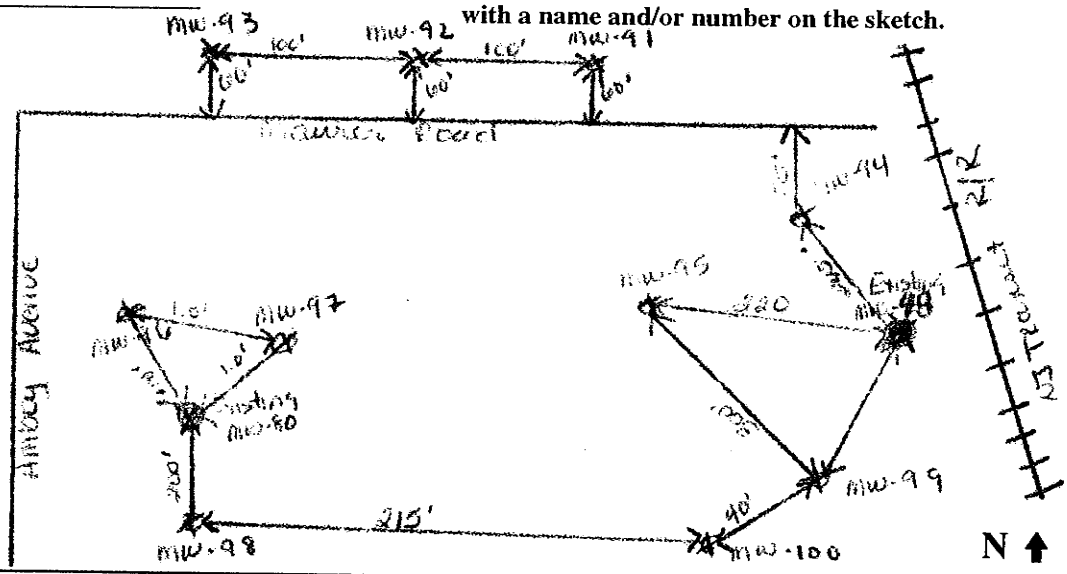
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	484.1	Perth Amboy	Middlesex

State Atlas Map No. 26



Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☒ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J. D.E.P.
JAN 29 2002
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐ _____

☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 1/24/02 Signature of Driller James W. [illegible] Registration No. 41224

Signature of Property Owner Tom Lambert

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 63557

Atlas Sheet Coordinates 26 : 41 : 319

OWNER IDENTIFICATION - Owner CHEVRON PRODUCTS COMPANY
Address 1200 STATE STREET
City PERTH AMBOY State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-91
County MIDDLESEX Municipality PERTH AMBOY CIT Lot No. 1 Block No. 484.1
Address 1200 STATE STREET

DATE WELL STARTED 2/15/02
DATE WELL COMPLETED 2/15/02

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 12 ft.
Well finished to 12 ft.

Borehole diameter:
Top 10 in.
Bottom 10 in.

Well was finished: ☐ above grade
☒ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☒ Yes ☐ No

Static water level after drilling 6 ft.

Water level was measured using M-scope

Well was developed for 1 hours
at 1 gpm

Method of development pumping

Was permanent pumping equipment installed? ☐ Yes ☒ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Potable Water Type of Rig Auger

Health and Safety Plan submitted? ☒ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2	12	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1	12			
Grout	0	1		Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method H.S.A.

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-3.5' - Brown sands, dk gray clay
3.5'-6' - Light gray to white clay - Lt brown silty clay
6'-10.5' - Lt brown silty clay
10.5-12' - Reddish brown M to C sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company JAMES C. ANDERSON ASSOC. INC.

Well Driller (Print) Wellington Reeve

Driller's Signature Wellington Reeve

Registration No. J1455 Date 2/20/02

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy City, Middlesex County, New Jersey
NJPDES Permit No:

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	26-63557
Owner's Well Number (As shown on the application or plans):	MW-91
Well Completion Date:	2-15-02
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	12.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	6.00
Yield (gallons per minutes):	1.00
Length of Time well Pumped or Bailed:	1 Hour 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-91

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 11.79" Latitude: North 40° 32' 11.65"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 620,452.6 East 556,065.1

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 13.75' (Steel=14.17')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

February 26, 2002
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508991

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: JAMES W DUFFY, MASTER LICENSE # 0001581

Permit Issued to: EAST COAST DRILLING, INC.

Company Address: 1256 N CHURCH ST MOORESTOWN, NJ 08057

PROPERTY OWNER

Name: V & S AMBOY GALVANIZING, LLC.

Organization: V & S Amboy Galvanizing, LLC.

Address: 1000 Buckeye Park Road

City: Columbus State: Ohio Zip Code: 43207

PROPOSED WELL LOCATION

Facility Name: Former West Yard Chevron

Address: 1180 Amboy Ave

County: Middlesex Municipality: Perth Amboy City Lot: 2.01 Block: 475

Easting (X): 556064 Northing (Y): 620455
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MW-0091

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 12

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508991

MONITORING WELL RECORD

PROPERTY OWNER: V & S AMBOY GALVANIZING, LLC.

Company/Organization: V & S Amboy Galvanizing, LLC.

Address: 1000 Buckeye Park Road Columbus, Ohio 43207

WELL LOCATION: Former West Yard Chevron

Address: 1180 Amboy Ave

County: Middlesex Municipality: Perth Amboy City Lot: 2.01 Block: 475

Easting (X): 556064 Northing (Y): 620455
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 24, 2015

DATE WELL COMPLETED: November 24, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: MW-0091

WELL CONSTRUCTION

Total Depth Drilled (ft.): 21 Finished Well Depth (ft.): 21 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	21	8		
Casing	0	11	2	PVC	Sch 40
Screen	11	21	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	9	8	2	10	188	16
Gravel Pack	9	21	8	2	#0		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 11 ft. below land surface
Water Level Measure Tool: M-Scope
Well Development Period: .5 hrs.
Method of Development: Pump
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: 7822DT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 10: Red/Brown GC - Clayey gravels, gravel-sand-clay mixtures
10 - 14: Dark Brown SM - Silty sands, sand-silt mixtures
14 - 20: Gray/Brown SM - Silty sands, sand-silt mixtures
20 - 21: Orange/Brown GP - Poorly graded gravels and gravel-sand mixtures, little or no fines

ADDITIONAL INFORMATION:

Driller of Record: Joseph Barnak, MONITORING LICENSE # 534717 Company: EAST COAST DRILLING, INC.

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Former West Yard Chevron

List all AKAs:

Street Address: 1180 Amboy Avenue

Municipality: Perth Amboy City (Township, Borough or City)

County: Middlesex Zip Code: 08861

Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner V&S Amboy Galvanizing, LLC.
2. Well Location (Street Address) 1180 Amboy Avenue
3. Well Location (Municipal Block and Lot) Block# 475 Lot # 2.01

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201508991
2. Site Well Number as shown on application or plans): MW-0091
3. Well Completion Date: 11/24/2015
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): 0.00
5. Total Depth of Well to the nearest ½ foot: 21
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'): 11.00
7. Screen Length (or length of open hole) in feet: 10
8. Screen or Slot Size: .010
9. Screen or Slot Material: Sch. 40 PVC
10. Casing Material (PVC, steel, or other – specify): Sch. 40 PVC
11. Casing Diameter (inches): 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 9.00
13. Yield (gallons per minute): 1
14. Development Techinque (specify): Pump
15. Length of Time well is developed/pumped or bailed (hours and minutes): 0 Hours 30 Minutes

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Former Chevron Perth Amboy Facility
List all AKAs: Buckeye Partners
Street Address: 1200 State Street
Municipality: Perth Amboy (Township, Borough or City)
County: Middlesex Zip Code: 08861
Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner
2. Well Location (Street Address) West Yard, Maurer Road, Perth Amboy, NJ
3. Well Location (Municipal Block and Lot) Block # Lot #

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):
2. Site Well Number (As shown on application or plans): MW-91R
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40°32'11.97" Longitude: West 74°16'11.84"
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 620485.7 East 556061.2
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 23.91
   Elevation of Top of Outer Casing: 24.20 Elevation of Ground: 24.2
   Check one: NAVD 88 X NGVD29 On Site Datum Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   The Vertical Datum is the National Geodetic Vertical Datum of 1929 (NGVD29). Benchmark: USC&GS Monument C-37, NGVD29 elevation=22.109'.
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date: 12/23/2015
Surveyor's Name: John D. Beattie License Number: 24GS04331900
Firm Name: Borbas Surveying & Mapping, LLC Certificate of Authorization #: 24GA28056200
Mailing Address: 402 Main Street
City/Town: Boonton State: New Jersey Zip Code: 07005
Phone Number: 973-316-8743 Ext: Fax: 973-402-6627

DWR-133M
2/00

2663557
thru
2663566

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. _____

COORD #: . .

Owner Chevron Products Company
Address 1200 State Street
Perth Amboy, NJ 08861

Driller JCA Associates Jr
Address 1256 N. Church Street
Moorestown, NJ 08057

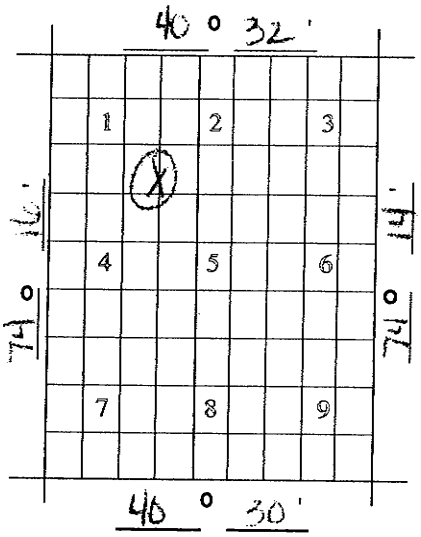
Name of Facility Chevron - Perth Amboy
Address Same

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	26 Feet
# of Wells Applied for (max. 10)	10	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

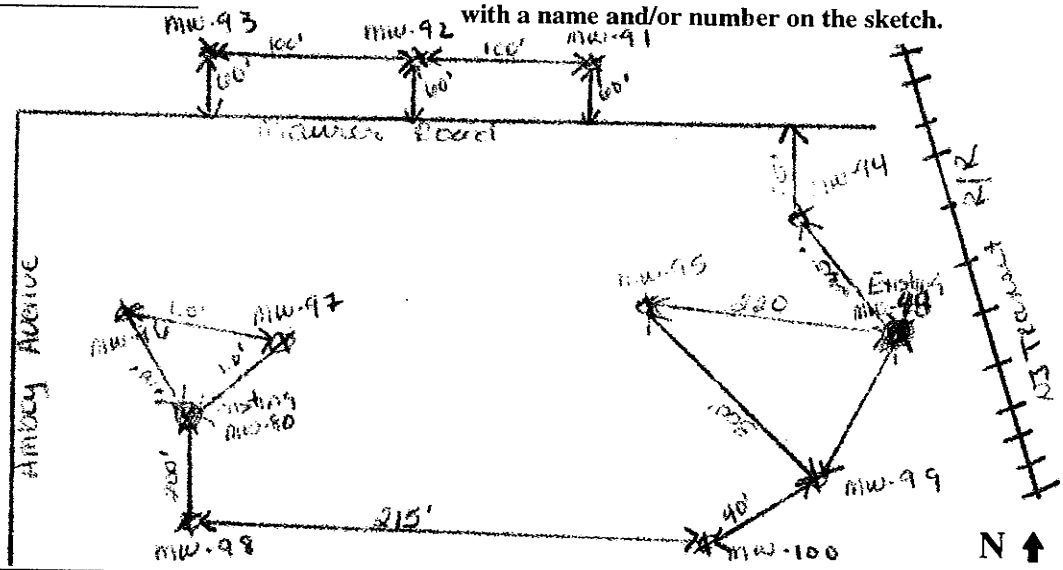
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	484.1	Perth Amboy	Middlesex

State Atlas Map No. 26



Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☒ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J. D.E.P.
JAN 29 2002
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐ _____
- ☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 1/24/02

Signature of Driller James W. Kelly

Registration No. 41224

Signature of Property Owner Tom Lambert

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 63558

Atlas Sheet Coordinates 26 : 41 : 319

OWNER IDENTIFICATION - Owner CHEVRON PRODUCTS COMPANY
Address 1200 STATE STREET
City PERTH AMBOY State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-92
County MIDDLESEX Municipality PERTH AMBOY CIT Lot No. 1 Block No. 484.1
Address 1200 STATE STREET

DATE WELL STARTED 2/15/02
DATE WELL COMPLETED 2/15/02

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 12 ft.
Well finished to 12 ft.

Borehole diameter:
Top 10 in.
Bottom 10 in.

Well was finished: ☐ above grade
☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Was steel protective casing installed?
☑ Yes ☐ No

Static water level after drilling 7 ft.

Water level was measured using M-Scope

Well was developed for 1 hours
at 1 gpm

Method of development pumping

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Potable Water Type of Rig Auger

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2	12	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1	12		#0	
Grout	0	1		Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method H.S.A.

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-6' - Reddish brown, gray, yellowish brown fine sand
6'-9' - Dark brown to reddish brown silt + sand
9'-10' - Light gray clay
10'-12' - Reddish brown M to C sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company JAMES C. ANDERSON ASSOC. INC.

Well Driller (Print) Wellington Reeve

Driller's Signature Wellington Reeve

Registration No. J1455 Date 2/20/02

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: __ ° __ ' __ . __ " LONGITUDE: __ ° __ ' __ . __ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy City, Middlesex County, New Jersey
NJPDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	26-63558
Owner's Well Number (As shown on the application or plans):	MW-92
Well Completion Date:	2-15-02
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	12.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	2.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	7.00
Yield (gallons per minutes):	1.00
Length of Time well Pumped or Bailed:	1 Hour 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-92

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 13.92" Latitude: North 40° 32' 11.25"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 620,411.7 East 555,900.6

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 17.69' (Steel=17.90')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

February 26, 2002
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508990

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: JAMES W DUFFY, MASTER LICENSE # 0001581

Permit Issued to: EAST COAST DRILLING, INC.

Company Address: 1256 N CHURCH ST MOORESTOWN, NJ 08057

PROPERTY OWNER

Name: V & S AMBOY GALVANIZING, LLC.

Organization: V & S Amboy Galvanizing, LLC.

Address: 1000 Buckeye Park Road

City: Columbus State: Ohio Zip Code: 43207

PROPOSED WELL LOCATION

Facility Name: Former West Yard Chevron

Address: 1180 Amboy Ave

County: Middlesex Municipality: Perth Amboy City Lot: 2.01 Block: 475

Easting (X): 555936 Northing (Y): 620431
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MW-0092

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 12

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508990

MONITORING WELL RECORD

PROPERTY OWNER: V & S AMBOY GALVANIZING, LLC.

Company/Organization: V & S Amboy Galvanizing, LLC.

Address: 1000 Buckeye Park Road Columbus, Ohio 43207

WELL LOCATION: Former West Yard Chevron

Address: 1180 Amboy Ave

County: Middlesex Municipality: Perth Amboy City Lot: 2.01 Block: 475

Easting (X): 555936 Northing (Y): 620431
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 5, 2015

DATE WELL COMPLETED: November 5, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: MW-0092

WELL CONSTRUCTION

Total Depth Drilled (ft.): 20 Finished Well Depth (ft.): 20 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	20	8		
Casing	0	10	2	PVC	Sch 40
Screen	10	20	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	9	8	2	40		20
Gravel Pack	9	20	8	2	#0		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 11.5 ft. below land surface
Water Level Measure Tool: M-Scope
Well Development Period: 1 hrs.
Method of Development: Pump
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: 7822DT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 8: Red/Brown GM - Silty gravels, gravel-sand-silt mixtures
8 - 20: Gray SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Steven Moylan, JOURNEYMAN LICENSE # 0022215 Company: EAST COAST DRILLING, INC.

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Former West Yard Chevron

List all AKAs:

Street Address: 1180 Amboy Avenue

Municipality: Perth Amboy City (Township, Borough or City)

County: Middlesex Zip Code: 08861

Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner V&S Amboy Galvanizing, LLC.
2. Well Location (Street Address) 1180 Amboy Avenue
3. Well Location (Municipal Block and Lot) Block# 475 Lot # 2.01

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201508990
2. Site Well Number as shown on application or plans): MW-0092
3. Well Completion Date: 11/5/2015
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): 0.00
5. Total Depth of Well to the nearest ½ foot: 20
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 10.00
7. Screen Length (or length of open hole) in feet: 10
8. Screen or Slot Size: ..... .010
9. Screen or Slot Material: ..... Sch. 40 PVC
10. Casing Material (PVC, steel, or other – specify): ..... Sch. 40 PVC
11. Casing Diameter (inches): 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 11.5
13. Yield (gallons per minute): 1
14. Development Techinque (specify): ..... Pump & Surge
15. Length of Time well is developed/pumped or bailed (hours and minutes): ..... 0 Hours 30 Minutes

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Former Chevron Perth Amboy Facility
List all AKAs: Buckeye Partners
Street Address: 1200 State Street
Municipality: Perth Amboy (Township, Borough or City)
County: Middlesex Zip Code: 08861
Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner
2. Well Location (Street Address) West Yard, Maurer Road, Perth Amboy, NJ
3. Well Location (Municipal Block and Lot) Block # Lot #

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):
2. Site Well Number (As shown on application or plans): MW-92R
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40°32'11.53" Longitude: West 74°16'13.84"
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 620440.0 East 555907.2
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 24.82
   Elevation of Top of Outer Casing: 25.09 Elevation of Ground: 25.1
   Check one: [ ] NAVD 88 [X] NGVD29 [ ] On Site Datum [ ] Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   The Vertical Datum is the National Geodetic Vertical Datum of 1929 (NGVD29). Benchmark: USC&GS Monument C-37, NGVD29 elevation=22.109'.
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date: 12/23/2015
Surveyor's Name: John D. Beattie License Number: 24GS04331900
Firm Name: Borbas Surveying & Mapping, LLC Certificate of Authorization #: 24GA28056200
Mailing Address: 402 Main Street
City/Town: Boonton State: New Jersey Zip Code: 07005
Phone Number: 973-316-8743 Ext: Fax: 973-402-6627

DWR-138 M
8/00

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 26 - 63559

Atlas Sheet Coordinates 26 : 41 : 319

OWNER IDENTIFICATION - Owner CHEVRON PRODUCTS COMPANY
Address 1200 STATE STREET
City PERTH AMBOY State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-93
County MIDDLESEX Municipality PERTH AMBOY CIT Lot No. 1 Block No. 484.1
Address 1200 STATE STREET

DATE WELL STARTED 2/18/02
DATE WELL COMPLETED 2/18/02

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 13 ft.
Well finished to 13 ft.

Borehole diameter:
Top 10 in.
Bottom 10 in.

Well was finished: ☐ above grade
☑ flush mounted

If finished above grade, casing height (stick up) above land surface 0 ft.

Was steel protective casing installed?
☑ Yes ☐ No

Static water level after drilling 7 ft.

Water level was measured using m-scope

Well was developed for 1 hours
at 1 gpm

Method of development pumping

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity — gpm

Pump type: —

Drilling Fluid Potable Water Type of Rig Auger

Health and Safety Plan submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	3	4	PVC	Sch 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	3	13	4	PVC	Sch 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	2.5	13		#0	
Grout	0	2.5		Neat Cement Bentonite	94 lbs. 5 lbs.

Grouting Method Gravity
Drilling Method H.S.A.

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-2' - Brown M to C sand, tr. gravel
2'9' - Yellowish orange fine silty sand tr. organics
9'-13' - Dark gray & reddish brown fine sand

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company JAMES C. ANDERSON ASSOC. INC.

Well Driller (Print) Wellington Reeve

Driller's Signature Wellington Reeve

Registration No. J1455 Date 2/20/02

AS-BUILT WELL LOCATION
(NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: _____ EASTING: _____

OR

LATITUDE: __ ° __ ' __.__ " LONGITUDE: __ ° __ ' __.__ "

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

DWR-133M
2/00

2663557
thru
2663566

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

Mail To:
NJDEP
BUREAU OF WATER ALLOCATION
PO BOX 426
TRENTON, NJ 08625-0426

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. _____

COORD #: . .

Owner Chevron Products Company
Address 1200 State Street
Perth Amboy, NJ 08861

Driller JCA Associates Jr
Address 1256 N. Church Street
Moorestown, NJ 08057

Name of Facility Chevron - Perth Amboy
Address Same

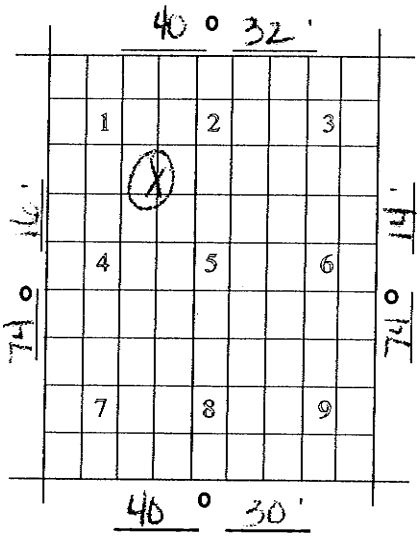
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	20 Feet
# of Wells Applied for (max. 10)	10	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

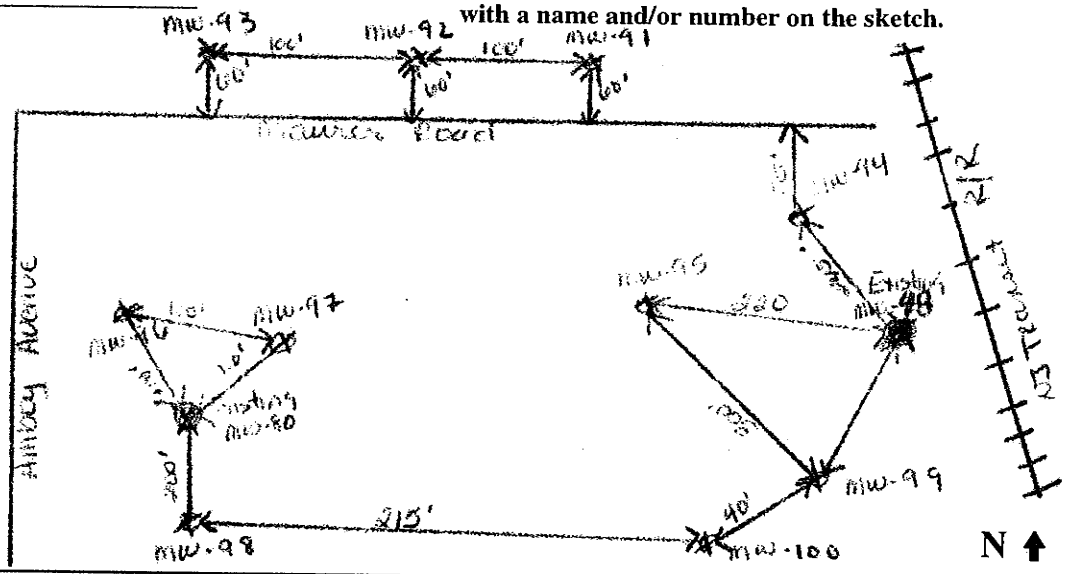
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	484.1	Perth Amboy	Middlesex

State Atlas Map No. 26

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.





FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ Spill Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☒ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)_____

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J. D.E.P.
JAN 29 2002
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE
- ☐ Issuance of this permit is subject to the conditions attached. (see next page)
- ☐ For monitoring purposes only
- ☐ _____

☐ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 1/24/02 Signature of Driller James W. [illegible] Registration No. 41224

Signature of Property Owner Tom Lambert

COPIES: Water Allocation - White Health Dept. - Yellow Owner - Blue Driller - White

MONITORING WELL CERTIFICATION-FORM A- AS-BUILT CERTIFICATION
(One form must be completed for each well)

Name of Permittee: Chevron Products Company
Name of Facility: Chevron - Perth Amboy Facility
Location: 1200 State Street, Perth Amboy City, Middlesex County, New Jersey
NJPDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Well Drilling Permits Section, (609-984-6831)) :	26-63559
Owner's Well Number (As shown on the application or plans):	MW-93
Well Completion Date:	2-18-02
Distance from Top of Casing (cap off) to ground surface (one-hundredth of a foot):	0.00
Total Depth of Well (one-hundredth of a foot):	13.00
Depth to Top of Screen From Top of Casing (one-hundredth of a foot):	3.00
Screen Length (feet):	10.00
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (one-hundredth of a foot):	7.00
Yield (gallons per minutes):	1.00
Length of Time well Pumped or Bailed:	1 Hour 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that, where applicable, I meet the requirements as specified on the reverse of this page, that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W. Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: Chevron USA Products Company
Name of Facility: Chevron Perth Amboy Refinery
Location: 1200 State Street, Perth Amboy, NJ 08861
UST Registration Number: _____ UST Case Number: ___ - ___ - ___ - _____

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): MW-93

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: West 74° 16' 15.82" Latitude: North 40° 32' 10.96"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: 620,381.9 East 555,753.8

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 20.37' (Steel=20.95')

Source of Elevation Datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.
NJ GC MON C-37 22.109' NVD 29

Significant observations and notes:

AUTHENTICATION:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

February 26, 2002
Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508989

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: JAMES W DUFFY, MASTER LICENSE # 0001581

Permit Issued to: EAST COAST DRILLING, INC.

Company Address: 1256 N CHURCH ST MOORESTOWN, NJ 08057

PROPERTY OWNER

Name: V & S AMBOY GALVANIZING, LLC.

Organization: V & S Amboy Galvanizing, LLC.

Address: 1000 Buckeye Park Road

City: Columbus State: Ohio Zip Code: 43207

PROPOSED WELL LOCATION

Facility Name: Former West Yard Chevron

Address: 1180 Amboy Ave

County: Middlesex Municipality: Perth Amboy City Lot: 2.01 Block: 475

Easting (X): 555797 Northing (Y): 620396
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: MW-0093

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 12

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 6, 2015
Expiration Date: August 5, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201508989

MONITORING WELL RECORD

PROPERTY OWNER: V & S AMBOY GALVANIZING, LLC.

Company/Organization: V & S Amboy Galvanizing, LLC.

Address: 1000 Buckeye Park Road Columbus, Ohio 43207

WELL LOCATION: Former West Yard Chevron

Address: 1180 Amboy Ave

County: Middlesex Municipality: Perth Amboy City Lot: 2.01 Block: 475

Easting (X): 555797 Northing (Y): 620396
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 5, 2015

DATE WELL COMPLETED: November 5, 2015

WELL USE: MONITORING

Other Use(s):

Local ID: MW-0093

WELL CONSTRUCTION

Total Depth Drilled (ft.): 16.5 Finished Well Depth (ft.): 16 Well Surface: Flush Mount

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	16.5	8		
Casing	0	6	2	PVC	Sch 40
Screen	6	16	2	PVC	.010

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5	8	2	20		10
Gravel Pack	5	16.5	8	2	#0		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 6.5 ft. below land surface
Water Level Measure Tool: M-Scope
Well Development Period: 1 hrs.
Method of Development: Pump
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: 7822DT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 7: Red/Brown GM - Silty gravels, gravel-sand-silt mixtures
7 - 16.5: Gray SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Steven Moylan, JOURNEYMAN LICENSE # 0022215 Company: EAST COAST DRILLING, INC.

New Jersey Department of Environmental Protection
Site Remediation Program

MONITORING WELL CERTIFICATION FORM A - AS-BUILT CERTIFICATION

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Former West Yard Chevron

List all AKAs:

Street Address: 1180 Amboy Avenue

Municipality: Perth Amboy City (Township, Borough or City)

County: Middlesex Zip Code: 08861

Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner V&S Amboy Galvanizing, LLC.
2. Well Location (Street Address) 1180 Amboy Avenue
3. Well Location (Municipal Block and Lot) Block# 475 Lot # 2.01

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):.. E201508989
2. Site Well Number as shown on application or plans): MW-0093
3. Well Completion Date: 11/5/2015
4. Distance from Top of Casing (cap off) to ground surface (nearest 0.01'): 0.00
5. Total Depth of Well to the nearest ½ foot: 16
6. Depth to Top of Screen (or top of open hole) from top of casing (nearest 0.01'):..... 6.00
7. Screen Length (or length of open hole) in feet: 10
8. Screen or Slot Size: ..... .010
9. Screen or Slot Material: ..... Sch. 40 PVC
10. Casing Material (PVC, steel, or other – specify): ..... Sch. 40 PVC
11. Casing Diameter (inches): 2
12. Static Water Level from top of casing at the time of installation (nearest 0.01'): 6.5
13. Yield (gallons per minute): 1
14. Development Techinque (specify): ..... Pump & Surge
15. Length of Time well is developed/pumped or bailed (hours and minutes): ..... 0 Hours 30 Minutes

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Former Chevron Perth Amboy Facility
List all AKAs: Buckeye Partners
Street Address: 1200 State Street
Municipality: Perth Amboy (Township, Borough or City)
County: Middlesex Zip Code: 08861
Program Interest (PI) Number(s): Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner
2. Well Location (Street Address) West Yard, Maurer Road, Perth Amboy, NJ
3. Well Location (Municipal Block and Lot) Block # Lot #

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing):
2. Site Well Number (As shown on application or plans): MW-93R
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40°32'11.09" Longitude: West 74°16'15.86"
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 620395.3 East 555751.2
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 21.61
   Elevation of Top of Outer Casing: 22.15 Elevation of Ground: 22.2
   Check one: [ ] NAVD 88 [X] NGVD29 [ ] On Site Datum [ ] Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   The Vertical Datum is the National Geodetic Vertical Datum of 1929 (NGVD29). Benchmark: USC&GS Monument C-37, NGVD29 elevation=22.109'.
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date: 12/23/2015
Surveyor's Name: John D. Beattie License Number: 24GS04331900
Firm Name: Borbas Surveying & Mapping, LLC Certificate of Authorization #: 24GA28056200
Mailing Address: 402 Main Street
City/Town: Boonton State: New Jersey Zip Code: 07005
Phone Number: 973-316-8743 Ext: Fax: 973-402-6627

DWR-133M
1/09

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

Permit No. P0001786

Mail To:
NJDEP
BUREAU OF WATER SYSTEMS
AND WELL PERMITTING
PO BOX 426
TRENTON, NJ 08625-0426
email: wellpermitting@dep.state.nj.us

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.31.878

Owner North Amboy Development Inc
Address 233 High Street
Perth Amboy, NJ 08861

Driller East Coast Drilling Inc
Address 1256 N. Church St
Moorestown NJ 08057

Name of Facility Off Site Chevron Street
Address 1160 Amboy Avenue
Perth Amboy, NJ 08861

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be utilized?	YES ☐ NO ☒
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

(old 1.04 / 475)

LOCATION OF WELL(S)

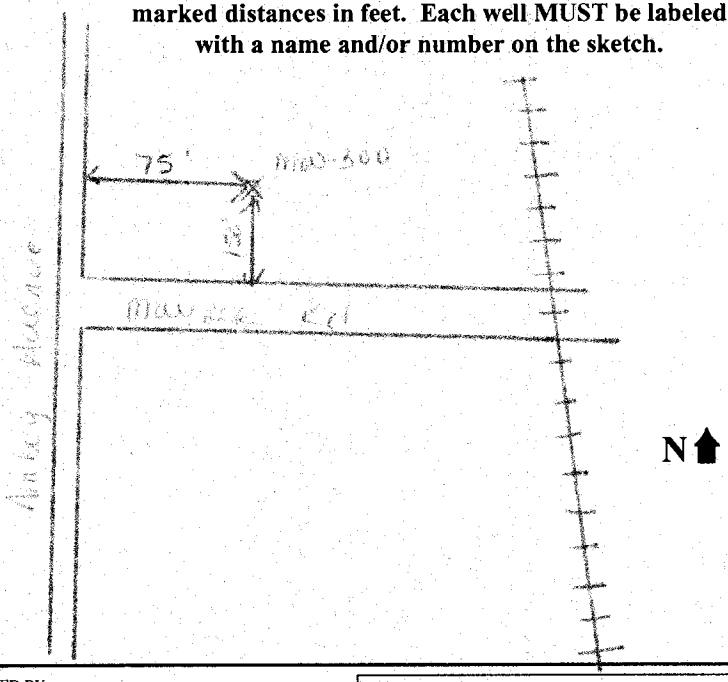
Lot #	Block #	Municipality	County
201	475	Perth Amboy	Middlesex

LOCAL ID	NORTHING (Y)	EASTING (X)
MW-300	620478	555697

PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

METHOD
☐ SURVEY ☒ DIGITAL IMAGE ☐ GPS

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☒ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number NJD081952902

This Space for Approval Stamp
WELL PERMIT APPROVED
N.J. D.E.P.
AUG 13 2009
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached. (see next page) ☒ For monitoring purposes only
☐

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 8/10/09 Signature of Driller [signature] Registration No. M1224
Signature of Property Owner Robert DeTow

COPIES: Water Systems & Well Permitting - White Health Dept. - Yellow Owner - Blue Driller - White

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number
P200909786

MONITORING WELL RECORD

Atlas Sheet Coordinates
2631898

OWNER IDENTIFICATION NORTH AMBOY DEVELOPMENT, INC.

Address 233 HIGH STREET

City Perth Amboy State New Jersey Zip Code 08861

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-300

County Middlesex Municipality Perth Amboy City Lot No. 201 Block No. 475

Address 1160 AMBOY AVENUE MW-300

WELL USE Monitoring **DATE WELL STARTED** 9/11/09

DATE WELL COMPLETED 9/11/09

WELL CONSTRUCTION

Total Depth Drilled 15 ft.

Finished Well Depth 13 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Steel protective casing installed? ☑ Yes ☐ No

Static Water Level after drilling 4.4 ft.

Water Level was Measured Using Mscope

Well was developed for 1 hours

at 1 gpm

Method of development Pump

Pump Capacity — gpm

Pump Type —

Drilling Fluid — Type of Rig 6610 DT

Health and Safety Plan Submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	3	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	3	13	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	2	15		#0	
Grout	0	2		Neat Cement Bentonite	94 lbs 5 lbs

Grouting Method

Drilling Method

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-6" Topsoil
6"-5' Brown Silty Sands
5-8' Gray Silty Sands
8-15' Red Silty clay

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Jim Sacis

Driller's Signature Jim Sacis

Registration No. MW 449791 Date 11/5/09

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 620539 **EASTING:** 555671

OR

LATITUDE: 40° 36' 12.5" **LONGITUDE:** 74° 16' 16.8"

ORIGINAL: DEP *COPIES: DRILLER* *OWNER* *HEALTH DEPARTMENT*

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: North Amboy Development, Inc.
Name of Facility: Off-Site Chevron Project
Location: 1160 Amboy Avenue, Perth Amboy, Middlesex County, New Jersey 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	P 2 0 0 9 0 9 7 8 6
Owner's Well Number (As shown on the application or plans):	MW-300
Well Completion Date:	9-11-09
Distance from Top of Casing (cap off) to ground surface (One-hundredth of a foot):	0.00
Total Depth of Well to the nearest ½ foot:	13.00
Depth to Top of Screen From Top of Casing (or depth to open hole) To the nearest ½ foot:	3.00
Screen Length (pr length of open hole) in feet:	10'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (One-hundredth of a foot):	4.40
Yield (gallons per minutes):	1.00
Length of Time Well is Developed/Pumped or Bailed:	1 Hours 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

S:\Forms\FORM A - NEW\P200909786.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-300**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 16.89"** Latitude: **North 40° 32' 12.52"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **620539.6** East: **555671.0**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **24.63'**
Outer Steel Casing : **25.06'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
1/09

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

Mail To:
NJDEP
BUREAU OF WATER SYSTEMS
AND WELL PERMITTING
PO BOX 426
TRENTON, NJ 08625-0426
email: wellpermitting@dep.state.nj.us

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. BC0909787 BC0909793

COORD #: 26.31.872

Owner Morris Perth Amboy Associates
Address 350 Veterans Blvd
Rutherford NJ 07070

Driller East Coast Drilling
Address 1250 N. Church St
Moorestown NJ 08057

Name of Facility Off-site Chevron Project
Address 1051-1057 Amboy Avenue
Perth Amboy, NJ 08861

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	7	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	— cumulative GPM

Lease on file

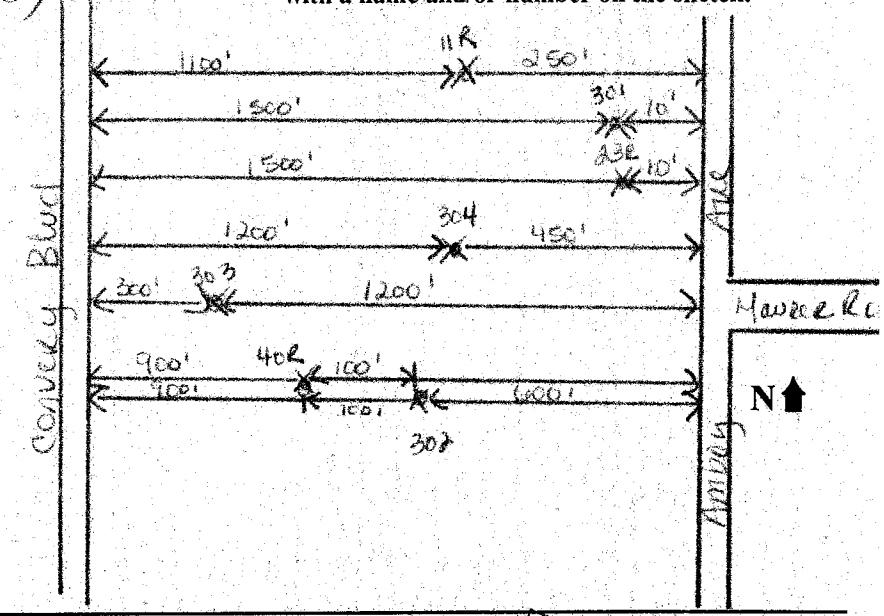
LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	469	Perth Amboy	Middlesex

8/12/09

LOCAL ID	NORTHING (Y)	EASTING (X)
MW-11R	620468	555291
MW-23R	620426	555569
MW-40R	619773	554650
MW-301	620504	555539
MW-302	620015	554946
MW-303	620232	554306
MW-304	620311	555085

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

METHOD
☐ SURVEY ☑ DIGITAL IMAGE ☐ GPS

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☑ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number NJD 081982902

This Space for Approval Stamp
WELL PERMIT APPROVED
N.J. D.E.P.
AUG 13 2009
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached (see next page).
☐ For monitoring purposes only
☐ SCRD Nos. 11, 14, 25

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 8/10/09 Signature of Driller James W. Duffy Registration No. M1224
Signature of Property Owner Tom Gallagher

COPIES: Water Systems & Well Permitting - White Health Dept. - Yellow Owner - Blue Driller - White

Pause.001

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number P200909790

MONITORING WELL RECORD

Atlas Sheet Coordinates 2631898

OWNER IDENTIFICATION MORRIS PERTH AMBOY ASSOCIATES

Address 350 VERTERANS BLVD.

City Rutherford State New Jersey Zip Code 07070

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-301

County Middlesex Municipality Perth Amboy City Lot No. 1 Block No. 469

Address 1051-1057 AMBOY AVENUE MW-301

WELL USE Monitoring

DATE WELL STARTED 9/8/09

DATE WELL COMPLETED 9/8/09

WELL CONSTRUCTION

Total Depth Drilled 15 ft.

Finished Well Depth 12.5 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Steel protective casing installed? ☑ Yes ☐ No

Static Water Level after drilling 4.1 ft.

Water Level was Measured Using MScope

Well was developed for 1 hours

at 1 gpm

Method of development Pump

Pump Capacity — gpm

Pump Type —

Drilling Fluid — Type of Rig 6610DT

Health and Safety Plan Submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	2.5	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	2.5	12.5	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	1.5	15		#0	
Grout	0	1.5		Neat Cement Bentonite	94 lbs 5 lbs

Grouting Method Tremie

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-6" Topsoil
6"-5' Brown Sand
5'-10' Red silty clay
10-14' Red/Brown silt
14-15' Gray silty clay

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Tim Saris

Driller's Signature Tim Saris

Registration No. MW449791 Date 11/5/09

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 620568 **EASTING:** 555551

OR

LATITUDE: 40° 32' 12.8" **LONGITUDE:** 74° 16' 18.8"

ORIGINAL: DEP *COPIES: DRILLER* *OWNER* *HEALTH DEPARTMENT*

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Morris Perth Amboy Associates
Name of Facility: Off-Site Chevron Project
Location: 1051-1057 Amboy Avenue, Perth Amboy, Middlesex County, New Jersey 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	P 2 0 0 9 0 9 7 9 0
Owner's Well Number (As shown on the application or plans):	MW-301
Well Completion Date:	9-8-09
Distance from Top of Casing (cap off) to ground surface (One-hundredth of a foot):	0.00
Total Depth of Well to the nearest ½ foot:	12.50
Depth to Top of Screen From Top of Casing (or depth to open hole) To the nearest ½ foot:	2.50
Screen Length (pr length of open hole) in feet:	10'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (One-hundredth of a foot):	4.10
Yield (gallons per minutes):	1.00
Length of Time Well is Developed/Pumped or Bailed:	1 Hours 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

S:\Forms\FORM A - NEW\P200909790.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-301**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 18.83"** Latitude: **North 40° 32' 12.80"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **620568.1** East: **555521.1**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **23.88'**
Outer Steel Casing : **24.25'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2019

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
1/09

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

Mail To:
NJDEP
BUREAU OF WATER SYSTEMS
AND WELL PERMITTING
PO BOX 426
TRENTON, NJ 08625-0426
email: wellpermitting@dep.state.nj.us

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. PCC090787 - Mon - PCC090793

COORD #: 26.31.872

Owner Morris Perth Amboy Associates
Address 350 Veterans Blvd
Rutherford, NJ 07070

Driller East Coast Drilling
Address 1256 N. Church St
Moorestown, NJ 08057

Name of Facility Off Site Chevron Project
Address 1051-1057 Amboy Avenue
Perth Amboy, NJ 08861

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	7	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	cumulative GPM

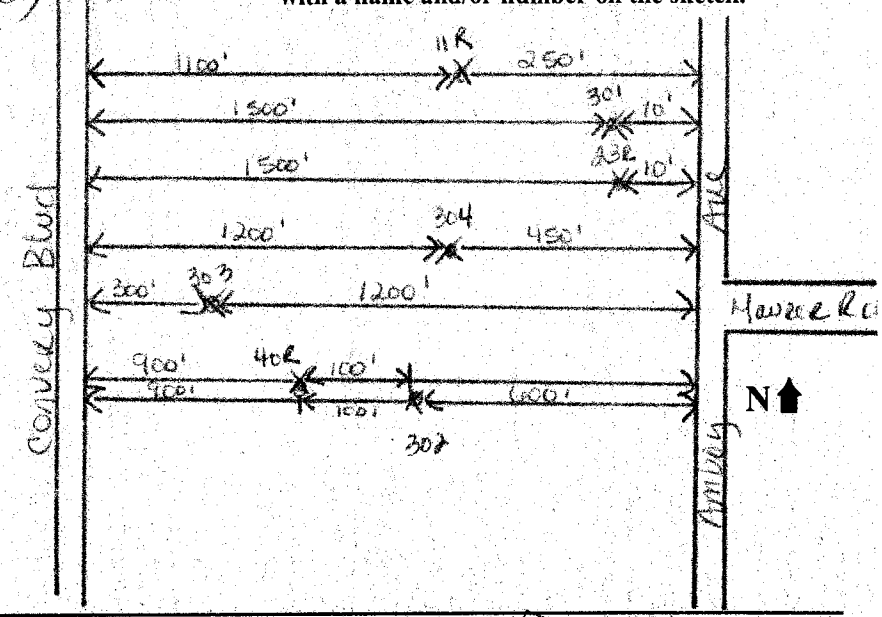
Lance [illegible] 8/12/09

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	469	Perth Amboy	Middlesex

LOCAL ID	NORTHING (Y)	EASTING (X)
MW-11R	620468	555291
MW-23R	620426	555569
MW-40R	619773	554650
MW-301	620504	555539
MW-302	620015	554946
MW-303	620232	554306
MW-304	620311	555085

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

METHOD
☐ SURVEY ☑ DIGITAL IMAGE ☐ GPS

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☑ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number NJD 081982902

This Space for Approval Stamp
WELL PERMIT APPROVED
N.J. D.E.P.
AUG 13 2009
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached (see next page). ☐ For monitoring purposes only
☐ Sent Mon 11 [illegible]

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 8/10/09 Signature of Driller James W. [illegible] Registration No. M1224
Signature of Property Owner Tom Gallagher

COPIES: Water Systems & Well Permitting - White Health Dept. - Yellow Owner - Blue Driller - White

Pause.com

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number P200909791

MONITORING WELL RECORD

Atlas Sheet Coordinates 2631898

OWNER IDENTIFICATION MORRIS PERTH AMBOY ASSOCIATES

Address 350 VERTERANS BLVD.

City Rutherford State New Jersey Zip Code 07070

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-302

County Middlesex Municipality Perth Amboy City Lot No. 1 Block No. 469

Address 1051-1057 AMBOY AVENUE MW-302

WELL USE Monitoring

DATE WELL STARTED 9/4/09

DATE WELL COMPLETED 9/4/09

WELL CONSTRUCTION

Total Depth Drilled 35 ft.

Finished Well Depth 35 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Steel protective casing installed? ☑ Yes ☐ No

Static Water Level after drilling 27 ft.

Water Level was Measured Using MSCope

Well was developed for 1 hours

at 1 gpm

Method of development Pump

Pump Capacity — gpm

Pump Type —

Drilling Fluid H_2O Type of Rig B-58

Health and Safety Plan Submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	15	4	PVC	
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	15	35	4	PVC	
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	13	35		#0	
Grout	0	13		Neat Cement Bentonite	470 lbs 25 lbs

Grouting Method Tremie

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-20' Fill
20-27' Red/Brown Clay
27-35' Red/Brown Fit Sand and Clay

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Wellington Reeve

Driller's Signature Wellington Reeve

Registration No. J1455 Date 11/15/09

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 620063 **EASTING:** 555277

OR

LATITUDE: 40° 32' 07.8" **LONGITUDE:** 74° 16' 21.2"

ORIGINAL: DEP ***COPIES: DRILLER*** ***OWNER*** ***HEALTH DEPARTMENT***

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Morris Perth Amboy Associates
Name of Facility: Off-Site Chevron Project
Location: 1051-1057 Amboy Avenue, Perth Amboy, Middlesex County, New Jersey 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	P 2 0 0 9 0 9 7 9 1
Owner's Well Number (As shown on the application or plans):	MW-302
Well Completion Date:	9-4-09
Distance from Top of Casing (cap off) to ground surface (One-hundredth of a foot):	0.00
Total Depth of Well to the nearest ½ foot:	35.00
Depth to Top of Screen From Top of Casing (or depth to open hole) To the nearest ½ foot:	15.00
Screen Length (pr length of open hole) in feet:	20'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (One-hundredth of a foot):	27.00
Yield (gallons per minutes):	1.00
Length of Time Well is Developed/Pumped or Bailed:	1 Hours 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

_____
Certification by Executive Officer or Duly Authorized Representative

_____
Name (Type or Print)

_____
Signature

_____
Title

_____
Date

S:\Forms\FORM A - NEW\P200909791.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-302**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 21.75"** Latitude: **North 40° 32' 07.82"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **620063.8** East: **555297.5**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **49.20'**
Outer Steel Casing : **49.57'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
1/09

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

Mail To:
NJDEP
BUREAU OF WATER SYSTEMS
AND WELL PERMITTING
PO BOX 426
TRENTON, NJ 08625-0426
email: wellpermitting@dep.state.nj.us

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

Permit No. B0090787 thru B0090793

COORD #: 26.31.872

Owner Morris Perth Amboy Associates
Address 350 Veterans Blvd
Rutherford, NJ 07070

Driller East Coast Drilling
Address 1256 N. Church St
Moorestown NJ 08057

Name of Facility Off-site Chevron Project
Address 1051-1057 Amboy Avenue
Perth Amboy, NJ 08861

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	7	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	____ cumulative GPM

Leave as bid #6 of 7 wells 8/14/09

LOCATION OF WELL(S)

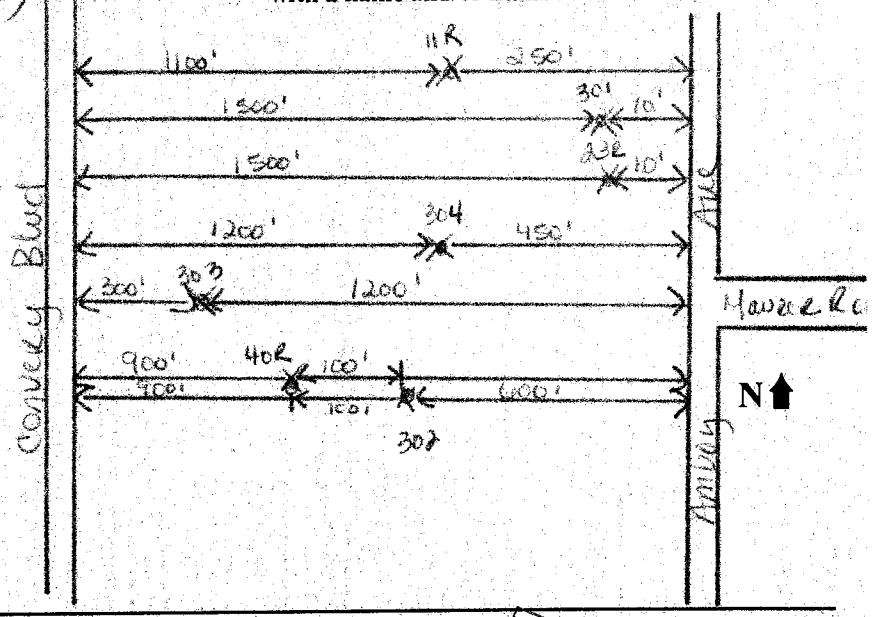
Lot #	Block #	Municipality	County
19	469	Perth Amboy	Middlesex

LOCAL ID	NORTHING (Y)	EASTING (X)
MW-11R	620468	555291
MW-23R	620426	555569
MW-40R	619773	554650
MW-301	620504	555539
MW-302	620015	554946
MW-303	620232	554306
MW-304	620311	555085

PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

METHOD
☐ SURVEY ☑ DIGITAL IMAGE ☐ GPS

Draw sketch of well(s) nearest roads,buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☑ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number NJD 081982902

This Space for Approval Stamp
WELL PERMIT APPROVED
N.J. D.E.P.
AUG 13 2009
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE ☐ Issuance of this permit is subject to the conditions attached (see next page). ☑ For monitoring purposes only
☐ Soil Vapor Well Permit

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 8/10/09 Signature of Driller James W. Duffy Registration No. M1224
Signature of Property Owner Tom Gallagher

COPIES: Water Systems & Well Permitting - White Health Dept. - Yellow Owner - Blue Driller - White

Passed

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number
P200909792

MONITORING WELL RECORD

Atlas Sheet Coordinates
2631898

OWNER IDENTIFICATION MORRIS PERTH AMBOY ASSOCIATES

Address 350 VERTERANS BLVD.

City Rutherford State New Jersey Zip Code 07070

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-303

County Middlesex Municipality Perth Amboy City Lot No. 1 Block No. 469

Address 1051-1057 AMBOY AVENUE MW-303

WELL USE Monitoring

DATE WELL STARTED 9/17/09

DATE WELL COMPLETED 9/17/09

WELL CONSTRUCTION

Total Depth Drilled 20 ft.

Finished Well Depth 18 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Steel protective casing installed? ☑ Yes ☐ No

Static Water Level after drilling 6.6 ft.

Water Level was Measured Using MScope

Well was developed for 1 hours

at 1 gpm

Method of development Pump

Pump Capacity — gpm

Pump Type —

Drilling Fluid — Type of Rig 6610 DT

Health and Safety Plan Submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	3	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 1010)	3	18	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	2	20		#0	
Grout	0	2		Neat Cement Bentonite	94 lbs 5 lbs

Grouting Method Tremie

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-10" Concrete
10"-5' Brown/Gray silt
5-9' Light gray clay
9-20' Dark gray clay

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Tim Saris

Driller's Signature Tim Saris

Registration No. MW449791 Date 11/5/09

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 619839 **EASTING:** 554395

OR

LATITUDE: 40° 32' 05.6" **LONGITUDE:** 74° 16' 33.4"

ORIGINAL: DEP *COPIES: DRILLER* *OWNER* *HEALTH DEPARTMENT*

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Morris Perth Amboy Associates
Name of Facility: Off-Site Chevron Project
Location: 1051-1057 Amboy Avenue, Perth Amboy, Middlesex County, New Jersey 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	P 2 0 0 9 0 9 7 9 2
Owner's Well Number (As shown on the application or plans):	MW-303
Well Completion Date:	9-17-09
Distance from Top of Casing (cap off) to ground surface (One-hundredth of a foot):	0.00
Total Depth of Well to the nearest ½ foot:	18.00
Depth to Top of Screen From Top of Casing (or depth to open hole) To the nearest ½ foot:	3.00
Screen Length (pr length of open hole) in feet:	15'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (One-hundredth of a foot):	6.60
Yield (gallons per minutes):	1.00
Length of Time Well is Developed/Pumped or Bailed:	1 Hours 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

S:\Forms\FORM A - NEW\P200909792.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-303**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 33.43"** Latitude: **North 40° 32' 05.62"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **619839.0** East: **554395.9**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **52.74'**
Outer Steel Casing : **53.11'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

DWR-133M
1/09

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

Permit No. PXC090787 thru PXC090793

Mail To:
NJDEP
BUREAU OF WATER SYSTEMS
AND WELL PERMITTING
PO BOX 426
TRENTON, NJ 08625-0426
email: wellpermitting@dep.state.nj.us

MONITORING WELL PERMIT

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #: 26.31.878

Owner Morris Perth Amboy Associates
Address 350 Veterans Blvd
Rutherford, NJ 07070

Driller East Coast Drilling
Address 1250 N. Church St
Moorestown NJ 08057

Name of Facility Off-site Chevron Project
Address 1051-1057 Amboy Avenue
Perth Amboy, NJ 08861

Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	15 Feet
# of Wells Applied for (max. 10)	7	Will pumping equipment be utilized?	YES ☐ NO ☑
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	cumulative GPM

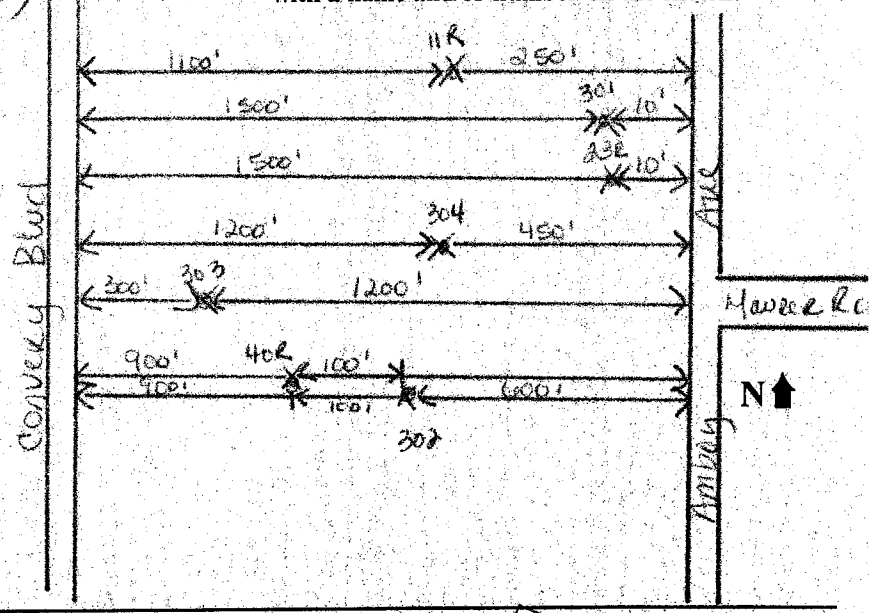
Lance on Lot 1 Twice 8/14/09

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
1	469	Perth Amboy	Middlesex

LOCAL ID	NORTHING (Y)	EASTING (X)
MW-11R	620468	555291
MW-23R	620426	555569
MW-40R	619773	554650
MW-301	620504	555539
MW-302	620015	554946
MW-303	620232	554306
MW-304	620311	555085

Draw sketch of well(s) nearest roads,buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



PROPOSED WELL LOCATION (NAD 83 HORIZONTAL DATUM)
NJ STATE PLANE COORDINATE IN US SURVEY FEET

METHOD
☐ SURVEY ☑ DIGITAL IMAGE ☐ GPS

FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- ☐ RCRA Site
- ☐ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain)
- ☐ Spill Site
- ☑ ISRA Site
- ☐ CERCLA (Superfund) Site

CASE I.D. Number
NJD 081982902

This Space For Approval Stamp
WELL PERMIT APPROVED
N.J. D.E.P.
AUG 13 2009
BUREAU OF WATER SYSTEMS & WELL PERMITTING

FOR D.E.P. USE
☐ Issuance of this permit is subject to the conditions attached (see next page).
☐ For monitoring purposes only
Some wells will change

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS PERTAINING TO THIS PERMIT.
In compliance with N.J.S.A.58:4A-14, application is made for a permit to drill a well as described above.

Date 8/10/09 Signature of Driller James W. Duffy Registration No. M1224
Signature of Property Owner Tom Gallagher

COPIES: Water Systems & Well Permitting - White Health Dept. - Yellow Owner - Blue Driller - White

New Jersey Department of Environmental Protection
Bureau of Water Allocation

Well Permit Number
P200909793

MONITORING WELL RECORD

Atlas Sheet Coordinates
2631898

OWNER IDENTIFICATION MORRIS PERTH AMBOY ASSOCIATES

Address 350 VERTERANS BLVD.

City Rutherford State New Jersey Zip Code 07070

WELL LOCATION - If not the same as owner please give address **Owner's Well No.** MW-304

County Middlesex Municipality Perth Amboy City Lot No. 1 Block No. 469

Address 1051-1057 AMBOY AVENUE MW-304

WELL USE Monitoring

DATE WELL STARTED 9/9/09

DATE WELL COMPLETED 9/9/09

WELL CONSTRUCTION

Total Depth Drilled 15 ft.

Finished Well Depth 13 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished: ☐ above grade ☑ flush mounted

If finished above grade, casing height (stick up) above land surface — ft.

Steel protective casing installed? ☑ Yes ☐ No

Static Water Level after drilling 3.9 ft.

Water Level was Measured Using MScope

Well was developed for 1 hours

at 1 gpm

Method of development Pump

Pump Capacity — gpm

Pump Type —

Drilling Fluid — Type of Rig 6610 DT

Health and Safety Plan Submitted? ☑ Yes ☐ No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	3	4	PVC	40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used .010)	3	13	4	PVC	40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	2	15		#0	
Grout	0	2		Neat Cement Bentonite	94 lbs 5 lbs

Grouting Method Tremie

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0-6" Topsoil
6"-4' Brown sand w/ gravels
4'-6' Gray clay
6-12.5' Light Brown silty clay
12.5-15' Red Clay

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company EAST COAST DRILLING, INC.

Well Driller (Print) Tim Sares

Driller's Signature Tim Sares

Registration No. MW449791 Date 11/5/09

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET

NORTHING: 620839 **EASTING:** 555556

OR

LATITUDE: 40° 32' 07.5" **LONGITUDE:** 74° 16' 18.3"

ORIGINAL: DEP *COPIES: DRILLER* *OWNER* *HEALTH DEPARTMENT*

MONITORING WELL CERTIFICATION - FORM A - AS-BUILT CERTIFICATION

(One form must be completed for each well)

Name of Permittee: Morris Perth Amboy Associates
Name of Facility: Off-Site Chevron Project
Location: 1051-1057 Amboy Avenue, Perth Amboy, Middlesex County, New Jersey 08861
NJDES Permit No: _____

CERTIFICATION

Well Permit Number (As assigned by NJDEP's Bureau of Water Allocation):	P 2 0 0 9 0 9 7 9 3
Owner's Well Number (As shown on the application or plans):	MW-304
Well Completion Date:	9-9-09
Distance from Top of Casing (cap off) to ground surface (One-hundredth of a foot):	0.00
Total Depth of Well to the nearest ½ foot:	13.00
Depth to Top of Screen From Top of Casing (or depth to open hole) To the nearest ½ foot:	3.00
Screen Length (pr length of open hole) in feet:	10'
Screen or Slot Size:	.010
Screen or Slot Material:	Sch 40 PVC
Casing Material: (PVC, Steel or Other-Specify):	Sch 40 PVC
Casing Diameter (inches):	4"
Static Water Level from Top of Casing at the Time of Installation (One-hundredth of a foot):	3.90
Yield (gallons per minutes):	1.00
Length of Time Well is Developed/Pumped or Bailed:	1 Hours 00 Minutes
Lithologic Log:	Attach

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

James W. Duffy
Name (Type or Print)

James W Duffy
Signature

M1224
Certification or License No.

Seal

Certification by Executive Officer or Duly Authorized Representative

Name (Type or Print)

Signature

Title

Date

S:\Forms\FORM A - NEW\P200909793.wpd

CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: **Chevron USA Products Company**
Name of Facility: **Chevron Perth Amboy Refinery**
Location: **200 State Street, Perth Amboy, NJ 08861**

NJDEP Incident number: Permit number:

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:
(This number must be permanently affixed to the well casing.)

Owner's Well Number (as shown on application or plans): **MW-304**

Geographic Coordinate NAD 83 (to nearest 1/10 of a second):

Longitude: **West 74° 16' 18.38"** Latitude: **North 40° 32' 09.55"**

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North: **620239.2** East: **555556.8**

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): **25.18'**
Outer Steel Casing : **25.54'**

Source of Elevation Datum (Benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.):
NGVD 29 NJ GC MON C-37 Elevation= 22.109'

Significant observations and notes:

AUTHENTICATION:
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

11/4/2009

Professional Land Surveyor's Signature Date

J. Peter Borbas, P.L.S., NJ License No. 31653
Professional Land Surveyor's Name and License Number

402 Main Street, Boonton, NJ 07005 (973) 316-8743
Professional Land Surveyor's Address and Phone Number

APPENDIX B

Laboratory Data Packages

APPENDIX C

Mann-Kendall Trend Analysis

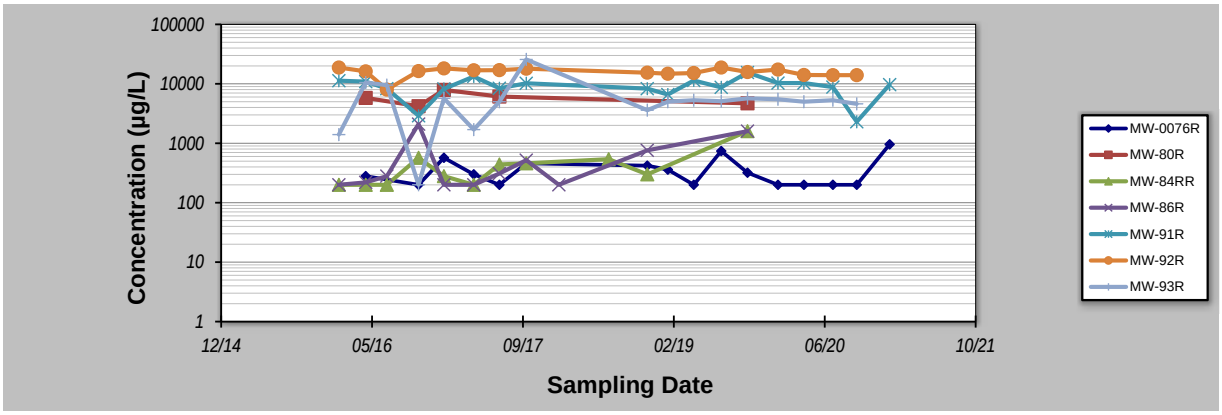
Appendix C-1
Mann-Kendall Trend Analysis - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **4/20/2021**
Facility Name: **Chevron**
Conducted By: **Christine Kimak**

Job ID:
Constituent: **Ammonia**
Concentration Units: **µg/L**

Sampling Point ID:		MW-0076R	MW-80R	MW-84RR	MW-86R	MW-91R	MW-92R	MW-93R
Sampling Event	Sampling Date	AMMONIA CONCENTRATION (µg/L)						
1	01/21/2016	-	-	200	200	**11300**	**18800**	1400
2	04/19/2016	280	**5800**	200	220	**10900**	**16200**	**10500**
3	06/28/2016	-	-	200	280	**8300**	**8000**	**9500**
4	10/11/2016	200	**4200**	570	2100	2900	**16400**	200
5	01/03/2017	570	**7900**	280	200	**8200**	**18200**	**5700**
6	04/12/2017	300	-	200	200	**13300**	**16900**	**1700**
7	07/06/2017	200	**6100**	440	310	**8400**	**17000**	**5000**
8	10/03/2017	460	-	460	520	**10200**	**18000**	**25700**
9	01/19/2018	-	-	-	200	-	-	-
10	04/03/2018	-	-	-	-	-	-	-
11	07/03/2018	-	-	540	-	-	-	-
12	11/08/2018	420	-	300	760	**8300**	**15400**	**3600**
13	01/15/2019	360	-	-	-	**6600**	**14800**	**5000**
14	04/11/2019	200	-	-	-	**11400**	**15200**	**5300**
15	07/11/2019	740	-	-	-	**8700**	**18800**	**5100**
16	10/06/2019	320	**4700**	1600	1600	**15500**	**15800**	**5700**
17	01/15/2020	200	-	-	-	**10300**	**17400**	**5500**
18	04/10/2020	200	-	-	-	**10300**	**14100**	**5000**
19	07/15/2020	200	-	-	-	**8800**	**14000**	**5300**
20	10/02/2020	200	-	-	-	2300	**14000**	**4600**
21	01/19/2021	960	-	-	-	**9700**	-	-
22								
23								
24								
25								
Coefficient of Variation:		0.62	0.25	0.87	1.05	0.35	0.16	0.88
Mann-Kendall Statistic (S):		-9	0	22	12	10	-25	-11
Confidence Factor:		63.9%	40.8%	97.1%	83.2%	64.2%	85.7%	67.1%
Concentration Trend:		Stable	Stable	Increasing	No Trend	No Trend	Stable	Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

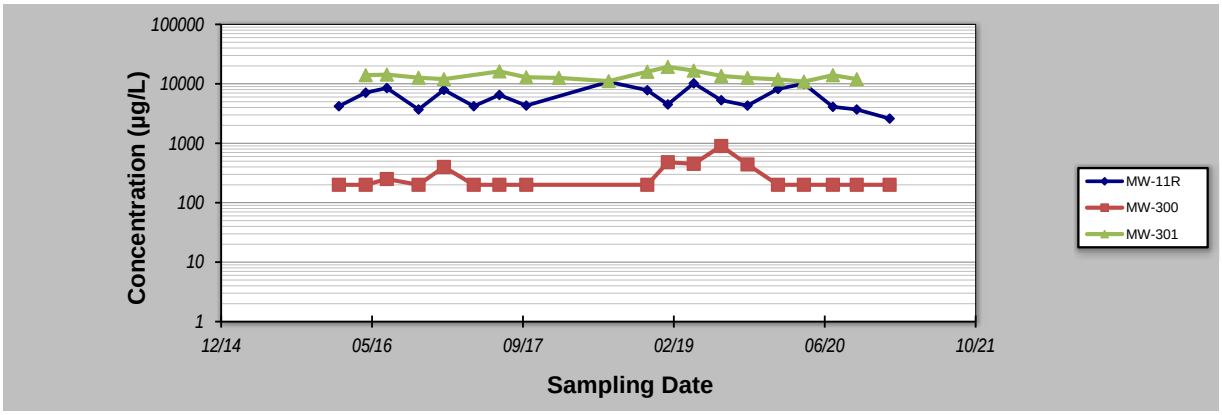
DISCLAIMER: The GSI Mann-Kendall Toolkit is available "as is". Considerable care has been exercised in preparing this software product; however, no party, including without limitation GSI Environmental Inc., makes any representation or warranty regarding the accuracy, correctness, or completeness of the information contained herein, and no such party shall be liable for any direct, indirect, consequential, incidental or other damages resulting from the use of this product or the information contained herein. Information in this publication is subject to change without notice. GSI Environmental Inc., disclaims any responsibility or obligation to update the information contained herein.
GSI Environmental Inc., www.gsi-net.com

Appendix C-1
Mann-Kendall Trend Analysis - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	4/20/2021	Job ID:	
Facility Name:	Chevron	Constituent:	Ammonia
Conducted By:	Christine Kimak	Concentration Units:	µg/L

Sampling Point ID:	MW-11R	MW-300	MW-301				
Sampling Event	Sampling Date	AMMONIA CONCENTRATION (µg/L)						
1	01/21/2016	**4200**	200	-				
2	04/19/2016	**7100**	200	**14000**				
3	06/28/2016	**8500**	250	**14300**				
4	10/11/2016	**3700**	200	**12700**				
5	01/03/2017	**7900**	400	**12000**				
6	04/12/2017	**4200**	200	-				
7	07/06/2017	**6500**	200	**16200**				
8	10/03/2017	**4300**	200	**12900**				
9	01/19/2018	-	-	**12600**				
10	04/03/2018	-	-	-				
11	07/03/2018	**10800**	-	**11100**				
12	11/08/2018	**7800**	200	**16000**				
13	01/15/2019	**4500**	480	**19300**				
14	04/11/2019	**10200**	450	**16700**				
15	07/11/2019	**5300**	900	**13600**				
16	10/06/2019	**4300**	440	**12600**				
17	01/15/2020	**8200**	200	**11900**				
18	04/10/2020	**10000**	200	**10900**				
19	07/15/2020	**4100**	200	**14000**				
20	10/02/2020	**3700**	200	**12000**				
21	01/19/2021	2600	200	-				
22								
23								
24								
25								
Coefficient of Variation:		0.41	0.62	0.16				
Mann-Kendall Statistic (S):		-29	-5	-27				
Confidence Factor:		85.3%	56.4%	85.6%				
Concentration Trend:		Stable	Stable	Stable				



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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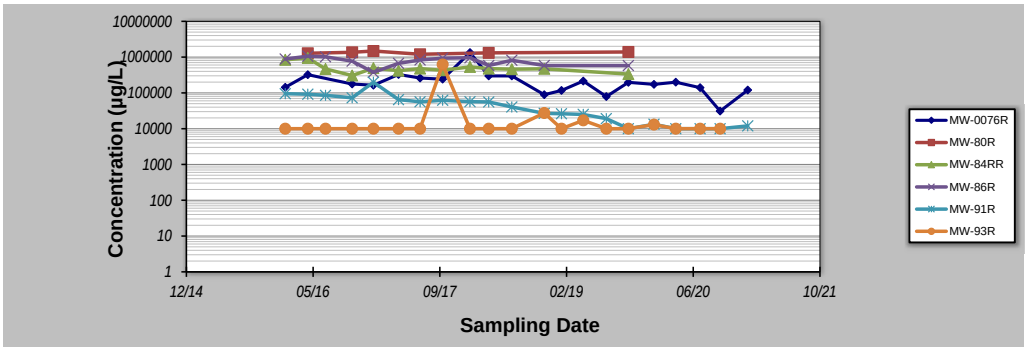
GSI Environmental Inc., www.gsi-net.com

Appendix C-2
Mann-Kendall Trend Analysis - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **4/20/2021**
Facility Name: **Chevron**
Conducted By: **Christine Kimak**
Job ID:
Constituent: **Sulfate**
Concentration Units: **µg/L**

Sampling Point ID:		MW-0076R	MW-80R	MW-84RR	MW-86R	MW-91R	MW-93R	
Sampling Event	Sampling Date	SULFATE CONCENTRATION (µg/L)						
1	01/21/2016	143000	-	**839000**	**885000**	95200	10000	
2	04/19/2016	**323000**	**1280000**	**947000**	**1060000**	91900	10000	
3	06/28/2016	-	-	**466000**	**1020000**	85300	10000	
4	10/11/2016	177000	**1360000**	**306000**	**770000**	72900	10000	
5	01/03/2017	164000	**1480000**	**493000**	**375000**	199000	10000	
6	04/12/2017	**327000**	-	**417000**	**669000**	64900	10000	
7	07/06/2017	**260000**	**1200000**	**477000**	**832000**	56500	10000	
8	10/03/2017	**242000**	-	**429000**	**930000**	62200	**621000**	
9	01/19/2018	**1340000**	-	**532000**	**960000**	56900	10000	
10	04/03/2018	**298000**	**1310000**	**476000**	**582000**	55700	10000	
11	07/03/2018	**298000**	-	**459000**	**816000**	40400	10000	
12	11/08/2018	89100	-	**471000**	**583000**	26800	27400	
13	01/15/2019	117000	-	-	-	26200	10000	
14	04/11/2019	214000	-	-	-	25000	17100	
15	07/11/2019	79000	-	-	-	19100	10000	
16	10/06/2019	197000	**1390000**	**335000**	**580000**	10000	10000	
17	01/15/2020	173000	-	-	-	13300	13000	
18	04/10/2020	199000	-	-	-	10000	10000	
19	07/15/2020	140000	-	-	-	10000	10000	
20	10/02/2020	31000	-	-	-	10000	10000	
21	01/19/2021	120000	-	-	-	12000	-	
22								
23								
24								
25								
Coefficient of Variation:		1.10	0.07	0.33	0.28	0.94	3.21	
Mann-Kendall Statistic (S):		-72	3	-12	-24	-164	8	
Confidence Factor:		99.5%	64.0%	77.0%	94.2%	>99.9%	59.6%	
Concentration Trend:		Decreasing	No Trend	Stable	Prob. Decreasing	Decreasing	No Trend	



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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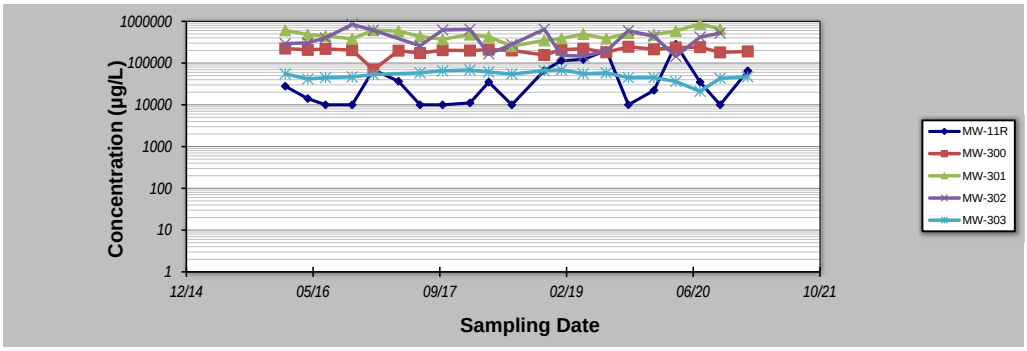
Appendix C-2
Mann-Kendall Trend Analysis - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **4/20/2021**
Facility Name: **Chevron**
Conducted By: **Christine Kimak**

Job ID:
Constituent: **Sulfate**
Concentration Units: **µg/L**

Sampling Point ID:		MW-11R	MW-300	MW-301	MW-302	MW-303		
Sampling Event	Sampling Date	SULFATE CONCENTRATION (µg/L)						
1	01/21/2016	27900	223000	**606000**	**292000**	55100		
2	04/19/2016	14100	207000	**480000**	**305000**	41600		
3	06/28/2016	10000	218000	**446000**	**400000**	44800		
4	10/11/2016	10000	204000	**382000**	**844000**	46700		
5	01/03/2017	69200	69700	**610000**	**608000**	53000		
6	04/12/2017	36600	198000	**582000**	-	-		
7	07/06/2017	10000	174000	**433000**	**259000**	58400		
8	10/03/2017	10000	203000	**372000**	**620000**	65200		
9	01/19/2018	11100	199000	**480000**	**642000**	68500		
10	04/03/2018	35000	210000	**427000**	166000	61000		
11	07/03/2018	10000	200000	**254000**	**279000**	54500		
12	11/08/2018	66400	156000	**348000**	**646000**	66000		
13	01/15/2019	114000	208000	**388000**	153000	68700		
14	04/11/2019	122000	221000	**493000**	146000	55600		
15	07/11/2019	201000	181000	**384000**	194000	58000		
16	10/06/2019	10000	246000	**523000**	**597000**	44900		
17	01/15/2020	22200	213000	**477000**	**436000**	45000		
18	04/10/2020	**281000**	236000	**586000**	144000	36300		
19	07/15/2020	35000	240000	**870000**	**420000**	21000		
20	10/02/2020	10000	180000	**650000**	**520000**	43000		
21	01/19/2021	65000	190000	-	-	47000		
22								
23								
24								
25								
Coefficient of Variation:		1.27	0.19	0.28	0.53	0.24		
Mann-Kendall Statistic (S):		46	30	34	-27	-21		
Confidence Factor:		92.7%	82.4%	87.4%	83.5%	75.5%		
Concentration Trend:		Prob. Increasing	No Trend	No Trend	Stable	Stable		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

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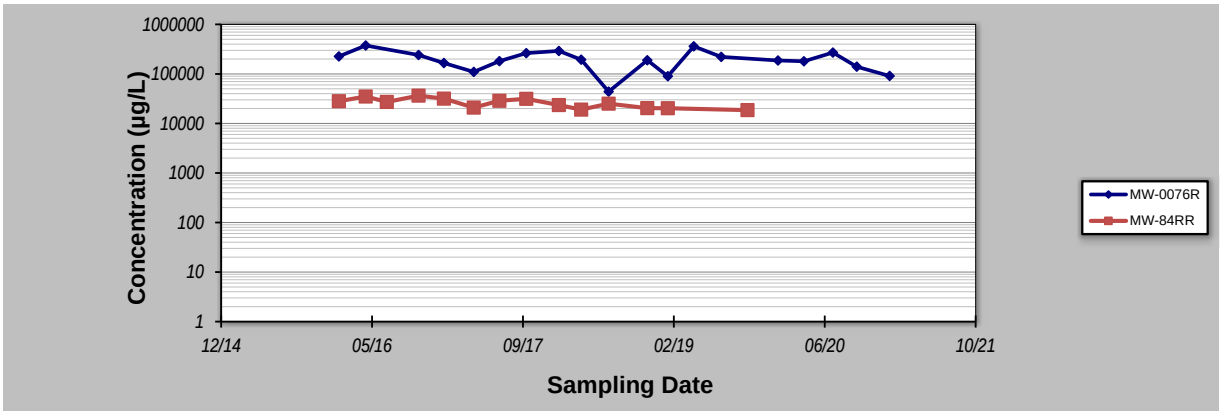
Appendix C-3
Mann-Kendall Trend Analysis - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	4/20/2021	Job ID:	
Facility Name:	Chevron	Constituent:	Sodium
Conducted By:	Christine Kimak	Concentration Units:	µg/L

Sampling Point ID:	MW-0076R	MW-84RR					
Sampling Event	Sampling Date	SODIUM CONCENTRATION (µg/L)						
1	01/21/2016	**226000**	28100					
2	04/19/2016	**375000**	35000					
3	06/28/2016	-	27200					
4	10/11/2016	**241000**	36400					
5	01/03/2017	**166000**	31700					
6	04/12/2017	**110000**	20900					
7	07/06/2017	**181000**	28700					
8	10/03/2017	**263000**	31400					
9	01/19/2018	**291000**	23500					
10	04/03/2018	**194000**	19000					
11	07/03/2018	**43900**	25100					
12	11/08/2018	**189000**	20400					
13	01/15/2019	**89900**	20300					
14	04/11/2019	**361000**	-					
15	07/11/2019	**221000**	-					
16	10/06/2019	-	18600					
17	01/15/2020	**187000**	-					
18	04/10/2020	**180000**	-					
19	07/15/2020	**270000**	-					
20	10/02/2020	**140000**	-					
21	01/19/2021	**91000**	-					
22								
23								
24								
25								
Coefficient of Variation:		0.45	0.24					
Mann-Kendall Statistic (S):		-29	-50					
Confidence Factor:		85.3%	99.9%					
Concentration Trend:		Stable	Decreasing					



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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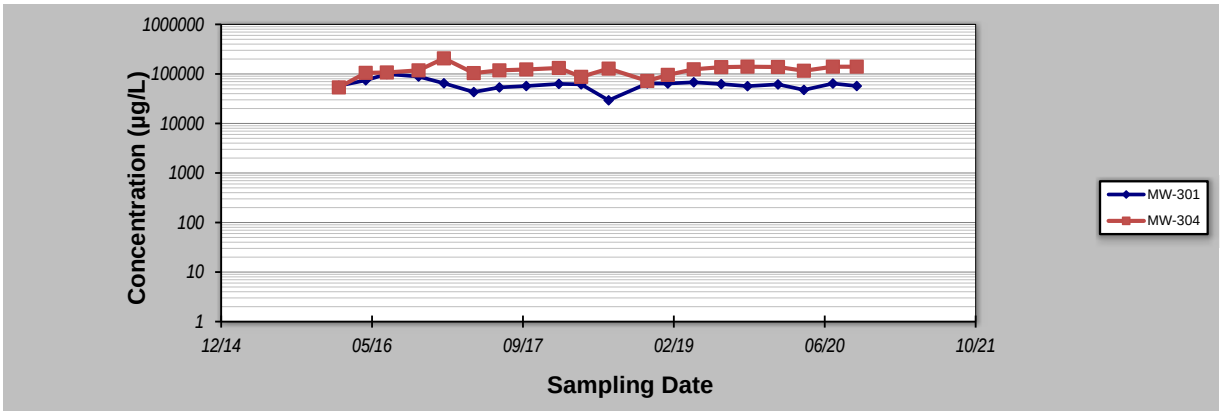
Appendix C-3
Mann-Kendall Trend Analysis - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	4/20/2021	Job ID:	
Facility Name:	Chevron	Constituent:	Sodium
Conducted By:	Christine Kimak	Concentration Units:	µg/L

Sampling Point ID:	MW-301	MW-304					
Sampling Event	**Sampling Date**	**SODIUM CONCENTRATION (µg/L)**					
1	01/21/2016	57600	53500				
2	04/19/2016	74400	105000				
3	06/28/2016	99500	107000				
4	10/11/2016	88500	118000				
5	01/03/2017	64700	206000				
6	04/12/2017	43000	104000				
7	07/06/2017	53400	118000				
8	10/03/2017	57000	123000				
9	01/19/2018	62900	132000				
10	04/03/2018	61600	87300				
11	07/03/2018	29300	128000				
12	11/08/2018	64300	72100				
13	01/15/2019	64000	95600				
14	04/11/2019	67800	124000				
15	07/11/2019	62400	137000				
16	10/06/2019	56600	140000				
17	01/15/2020	61400	138000				
18	04/10/2020	47600	116000				
19	07/15/2020	64000	140000				
20	10/02/2020	57000	140000				
21	01/19/2021						
22							
23							
24							
25							
Coefficient of Variation:		0.24	0.23				
Mann-Kendall Statistic (S):		-45	57				
Confidence Factor:		93.8%	97.5%				
Concentration Trend:		Prob. Decreasing	Increasing				



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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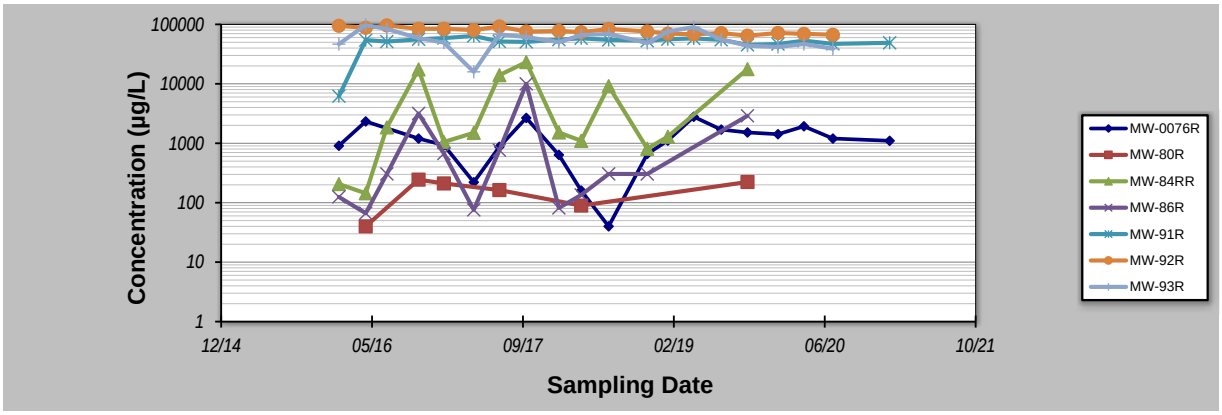
Appendix C-4
Mann-Kendall Trend Analysis - West Yard
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **4/20/2021**
Facility Name: **Chevron**
Conducted By: **Christine Kimak**
Job ID:
Constituent: **Total Iron**
Concentration Units: **µg/L**

Sampling Point ID:		MW-0076R	MW-80R	MW-84RR	MW-86R	MW-91R	MW-92R	MW-93R
Sampling Event	Sampling Date	TOTAL IRON CONCENTRATION (µg/L)						
1	01/21/2016	**908**	-	206	125	**6200**	**94600**	**46600**
2	04/19/2016	**2330**	40	144	66.4	**54400**	**87500**	**97900**
3	06/28/2016	-	-	**1850**	**305**	**51400**	**96000**	**83500**
4	10/11/2016	**1200**	244	**17500**	**3170**	**56100**	**84100**	**58800**
5	01/03/2017	**929**	211	**1050**	**672**	**58800**	**84400**	**49400**
6	04/12/2017	221	-	**1500**	75.8	**63900**	**80100**	**15900**
7	07/06/2017	**871**	163	**14000**	**766**	**51500**	**92200**	**67900**
8	10/03/2017	**2670**	-	**23200**	**10000**	**50700**	**75700**	**61300**
9	01/19/2018	**637**	-	**1520**	81.6	**55400**	**77500**	**50300**
10	04/03/2018	160	89.5	**1100**	135	**58300**	**73800**	**66200**
11	07/03/2018	40	-	**9150**	**305**	**54800**	**83600**	**69000**
12	11/08/2018	**663**	-	**811**	**304**	**53000**	**75900**	**48600**
13	01/15/2019	**1110**	-	**1290**	-	**56300**	**69800**	**75600**
14	04/11/2019	**2790**	-	-	-	**58000**	**68200**	**90300**
15	07/11/2019	**1700**	-	-	-	**55100**	**71400**	**55600**
16	10/06/2019	**1520**	223	**17700**	**2900**	**45200**	**64600**	**43900**
17	01/15/2020	**1420**	-	-	-	**46700**	**71700**	**41600**
18	04/10/2020	**1930**	-	-	-	**53200**	**69300**	**46800**
19	07/15/2020	**1200**	-	-	-	**47000**	**67000**	**39000**
20	10/02/2020	-	-	-	-	-	-	-
21	01/19/2021	**1100**	-	-	-	**49000**	-	-
22								
23								
24								
25								
Coefficient of Variation:		0.65	0.50	1.18	1.83	0.09	0.12	0.34
Mann-Kendall Statistic (S):		14	1	8	11	-47	-109	-51
Confidence Factor:		68.7%	50.0%	66.2%	74.9%	94.6%	>99.9%	97.1%
Concentration Trend:		No Trend	No Trend	No Trend	No Trend	Prob. Decreasing	Decreasing	Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water*, 41(3):355-367, 2003.

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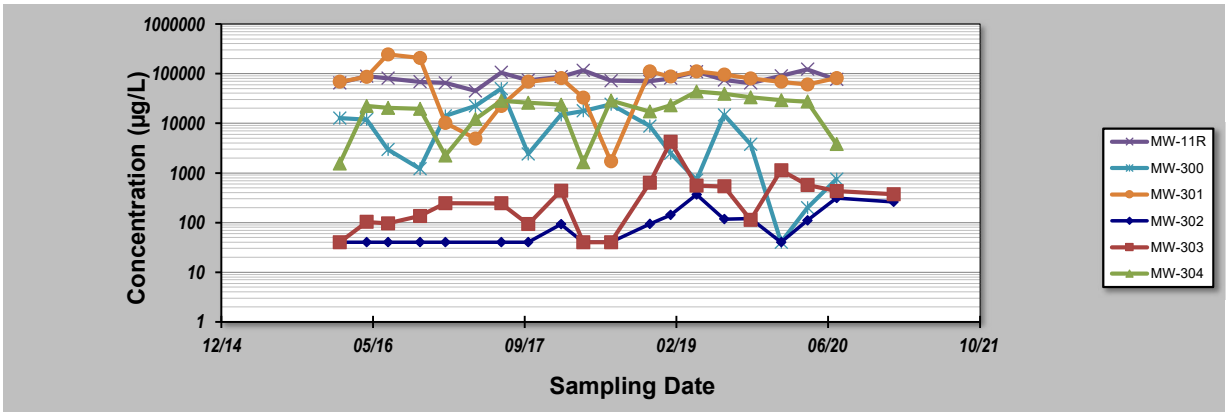
Appendix C-4
Mann-Kendall Trend Analysis - Amboy Field
Groundwater Monitoring Report
West Yard/Amboy Field
Former Chevron Perth Amboy Facility

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	4/20/2021	Job ID:	
Facility Name:	Chevron	Constituent:	Total Iron
Conducted By:	Christine Kimak	Concentration Units:	µg/L

Sampling Event	Sampling Date	MW-11R	MW-300	MW-301	MW-302	MW-303	MW-304	
		TOTAL IRON CONCENTRATION (µg/L)						
1	01/21/2016	65000	12600	68300	40	40	1550	
2	04/19/2016	88600	11900	85300	40	103	22200	
3	06/28/2016	80900	2950	244000	40	96.4	20500	
4	10/11/2016	68600	1210	207000	40	135	19500	
5	01/03/2017	65100	14000	10200	40	245	2250	
6	04/12/2017	44800	22200	4940	-	-	12100	
7	07/06/2017	105000	49600	22500	40	244	28400	
8	10/03/2017	73100	2400	68700	40	93	25800	
9	01/19/2018	86700	14700	81200	92.8	434	23700	
10	04/03/2018	115000	17700	32800	40	40	1630	
11	07/03/2018	71800	24100	1720	40	40	28500	
12	11/08/2018	70000	8710	111000	93.3	636	17200	
13	01/15/2019	80800	2470	86400	143	4220	22800	
14	04/11/2019	109000	714	111000	367	559	43800	
15	07/11/2019	74000	14700	95000	118	532	38900	
16	10/06/2019	64500	3780	79900	120	114	33300	
17	01/15/2020	90400	40	68700	40	1130	29300	
18	04/10/2020	122000	198	60300	111	576	27300	
19	07/15/2020	76000	750	81000	310	430	3800	
20	10/02/2020	-	-	-	-	-	-	
21	01/19/2021	-	-	-	260	370	-	
22								
23								
24								
25								
Coefficient of Variation:		0.24	1.18	0.78	0.92	1.72	0.53	
Mann-Kendall Statistic (S):		21	-44	-5	79	46	37	
Confidence Factor:		77.3%	94.8%	55.9%	99.9%	95.6%	91.2%	
Concentration Trend:		No Trend	Prob. Decreasing	Stable	Increasing	Increasing	Prob. Increasing	



Notes:

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2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
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