

EIM Help – Entering NAPL (Free Product) Well Data

Version 2.1

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What is NAPL?

NAPL is non-aqueous phase liquid. We refer to NAPL as *free product* or just *product* because it doesn't mix with water. Light non-aqueous phase liquids (LNAPLs) are lighter than water and float on its surface (*floating product*). Examples include gasoline, diesel, and other light petroleum products. Dense non-aqueous phase liquids (DNAPLs) are denser than water and sink through the aquifer until they hit a confining layer. The most common DNAPLs are chlorinated solvents, like dry-cleaning chemicals, and heavy petroleum products, like creosote. LNAPL free product is much more common in wells than DNAPL free product.

What does this guidance cover?

How to enter:

- Depths to product and depths to water in wells with free product.
 - Free product lab result data.
- **Note:** For groundwater samples containing dissolved NAPL compounds, enter results as normal groundwater data. You don't need to follow this guidance.

Which EIM template do I use?

Use the [Result template](#). Before you begin, download the [Result help](#) document. Follow it and this guidance as you enter your data. **Don't use the Well Water Level Template** for wells with free product. It enters the wrong Sample Source for *Depth to Product* measurements.

How do I enter depth to water and product measurements?

In wells with free product, field staff often measure depth to water and depth to product. Submit both measurements to EIM.

Use this table and the [Result help](#) document as guidance.

Col- umn	Field Name Result template	Type of Data	
		Depth to Water <i>Valid Values</i>	Depth to Product <i>Valid Values</i>
D	Field Collection Type	<i>Measurement</i>	
Q	Well Water Level Measuring Point or TOC ID	Must be the same value you submitted for the well <i>TOC1</i> <i>MP1</i>	
X	Sample Matrix	<i>Water</i>	<i>Other Liquid</i>
Y	Sample Source	<i>Groundwater</i>	
AH	Result Parameter Name Enter matching parameter name pairs if you have Depth to Water and Depth to Product measurements.	<i>Water level in well (depth below top of well casing)</i>	<i>Depth to product (LNAPL) in well (depth below top of well casing)</i>
		<i>Water level in well (depth below measuring point)</i>	<i>Depth to product (LNAPL) in well (depth below measuring point)</i>
		<i>Water level in well (depth below measuring point)</i>	<i>Depth to product (DNAPL) in well (depth below measuring point)</i>
AS	Result Data Qualifier	<i>WLV</i> Description: LNAPL (free product) or other foreign substance on well water.	
AX	Water Level Accuracy	<i>WL2</i> Description: +0.01 ft <i>WL1</i> Description: +0.1 ft <i>WLO</i> Description: +1 ft <i>WL6</i> Description: >1 ft	
AY	Result Method	<i>GWL-OIL-METER</i> Description: Product or groundwater level by electronic oil/water interface meter.	

- **Note:** If you couldn't get a measurement, enter your attempt as an Observation. [Download the Observations guidance for instructions.](#)
- If floating product prevented your measurement, use *WLV* (LNAPL (floating product) or other foreign substance on well water) in the Result Data Qualifier field.

How do I enter product sample data?

For free product lab results, use this table and the [Result help document](#) as guidance.

Column	Field Name	NAPL Data <i>Valid Values and Requirements</i>
D	Field Collection Type	<i>Sample</i>
Q	Well Water Level Measuring Point or TOC ID	Leave this blank
R	Sample ID	Required
V	Sample Composite Flag	<i>N (No)</i>
X	Sample Matrix	<i>Other Liquid</i>
Y	Sample Source	<i>Groundwater</i>
AA	Sample Collection Method	Common valid values* <i>Bailer-Polyethylene</i> <i>Bailer-PVC</i> <i>Bailer-Stainless</i> <i>Bailer-Unknown</i> <i>Pump-Bladder</i> <i>Pump-GW-Low-Flow</i> <i>Pump-Hydrostar</i> <i>Pump-Inertial-Lift</i> <i>Pump-Peristaltic</i> <i>Pump-Submersible</i>
AH	Result Parameter Name	<ul style="list-style-type: none"> • See table below for physical parameters. • Search Parameter table for chemical analytes.
AT	Fraction Analyzed	<i>Total</i>
AU	Result Method	<ul style="list-style-type: none"> • See table below for physical parameter methods. • Search Method table for chemical result methods.

*[Search the Methods table for more valid values.](#)

Do you have field replicates? Download our [Field Replicates](#) guidance.

Do you have lab replicates (including dilutions)? Download our [Lab Dilutions and Re-Extractions](#) guidance.

Physical parameters for free product samples

Along with chemical analytes, we have common physical parameters and units for free product.

Result Parameter Name	Result Units
<i>Density of non-aqueous phase liquid (NAPL) at 12 degrees Celsius</i>	kg/L
<i>Density of non-aqueous phase liquid (NAPL) at 25 degrees Celsius</i>	kg/L
<i>Flash point of non-aqueous phase liquid (NAPL)</i>	deg F
<i>Kinematic viscosity of non-aqueous phase liquid (NAPL) at 12 degrees Celsius</i>	mm ² /sec
<i>Kinematic viscosity of non-aqueous phase liquid (NAPL) at 25 degrees Celsius</i>	mm ² /sec
<i>Specific gravity</i>	None

[Search the Parameters table for more valid values.](#)

Result methods for free product samples (physical methods)

Result Method	Result Method Description
ASTM-D445-17	Standard Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and Calculation of Dynamic Viscosity), V. 2017
ASTM-D1298-12b	Standard Test Method for Density, Relative Density, or API Gravity of Crude Petroleum and Liquid Petroleum Products by Hydrometer Method, 2012 Revision
SW1010A	Test Methods for Flash Point by Pensky-Martens Closed Cup Tester, Revision 1
ASTM-D93-16a	Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester, 2016 Revision
ASTM-D287-12b	Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method), 2012 Revision

[Search the Methods table for more valid values.](#)

Document revision history

Revision Date	Revision No.	Summary of Changes	Reviser(s)
08/27/2012	1.0	Original document	JD, CN
08/01/2013	1.1	Updated field names per data model change	CN
08/15/2017	1.2	Updated links and removed reference to groundwater tutorials and the Groundwater Data Center	KC
11/15/2018	2.0	Reformatted document, updated title (formerly Water Levels in Wells with LNAPL) and added information on entering data for samples of NAPL	SP, CN
12/12/2018	2.1	Updated OIL-METER to GWL-OIL-METER and updated description	KC