



## Odor Evaluation Report

**Report Number: 2033701**

**Project Name: Ninyo & Moore**

**Samples Collected: 11/30/20**

**Samples Received: 12/2/20**

**Samples Evaluated: 12/2/20**

**Report Prepared For: Yorke Engineering, LLC**  
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**Report Prepared By: St. Croix Sensory, Inc.**  
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St. Croix Sensory is ISO/IEC 17025:2017 Accredited

Perry Johnson Laboratory Accreditation, Inc.  
Certificate No.: L20-534

Accreditation No.: 81047  
Initial Accreditation Date: 19 May 2014

# Odor Evaluation Report



**Client:** Yorke Engineering, LLC  
**Project Name:** Ninyo & Moore

**Report Number:** 2033701  
**Samples Evaluated:** 12/2/20

#	Field No.	Sample Description	DT	RT	I	HT	DR	Comments
1	Inside AAA	General Air Sample	80	40	1.6	-0.0	-1.05	
Comment: Air sample evaluated out of holding time.								

Odor Detection Threshold Testing (Evaluations) conducted in compliance with and under all conditions specified or required by ASTM E679 and EN13725 unless noted in report "Comments" column. The Client Chain of Custody (COC) attached to the Odor Evaluation Report provides information that may include sampling location(s), methods, and/or environmental conditions during sampling. Client, designated agents, and/or reviewers provide interpretation of results based on sampling conditions.

**DT** - Detection Threshold as determined by ASTM E679 and EN13725. The Practical Detection Limit (PDL) of DT is 12, based on the nominal lowest dilution presentation ratio of 8. Result is dimensionless dilution ratio at which half the assessors detect the diluted air as different from the blank air. Odor Units (OU) or Odor Units per cubic meters (OU/m<sup>3</sup>) are commonly used as pseudo-units.

**RT** - Recognition Threshold as determined by ASTM E679 and EN13725. Result is dimensionless dilution ratio at which half the assessors recognize a character in the diluted odorous air. Odor Units (OU) or Odor Units per cubic meter (OU/m<sup>3</sup>) are commonly used pseudo-units.

**I** - Perceived odor intensity as determined by ASTM E544. Intensity is expressed as average reported scale value on 10pt n-butanol in water static scale.

**HT** - Hedonic Tone value. Average rating of assessors' opinion of odor pleasantness on scale of -10 (most unpleasant) to +10 (most pleasant).

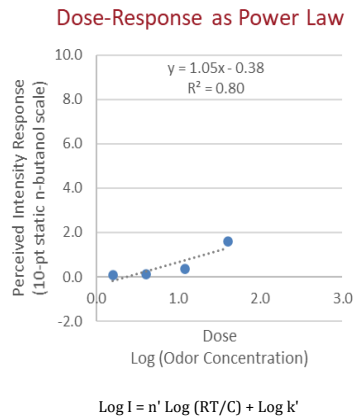
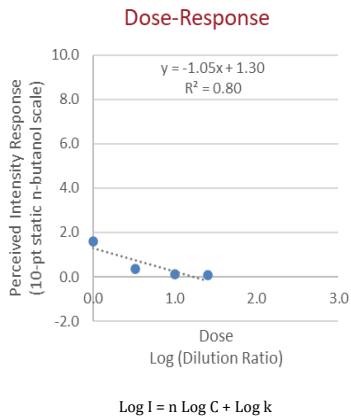
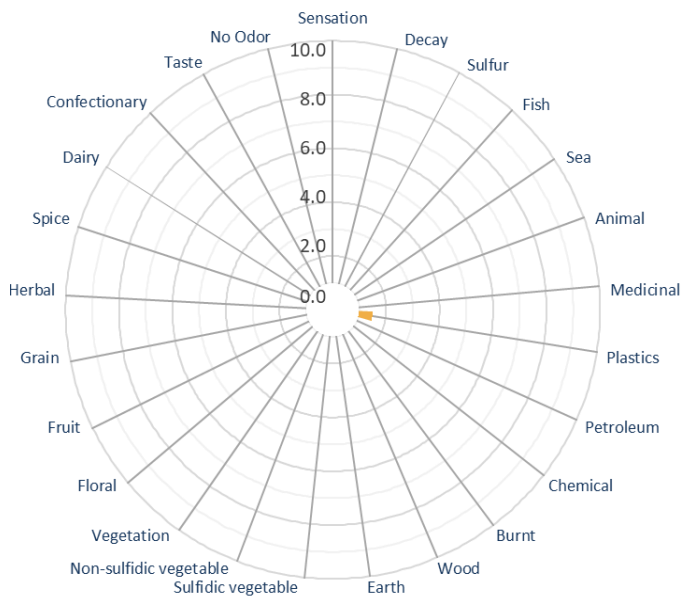
**DR** - the slope of the dose-response relationship of odor intensity with dilution (persistence of odor).

**Field No:** Inside AAA  
**Description:** General Air Sample

**DT:** 80  
**RT:** 40  
**I:** 1.6  
**HT:** -0.0  
**DR:** -1.05

**Comments:**

### Odor Descriptors



**DT** - Detection Threshold as determined by ASTM E679 and EN13725.  
**RT** - Recognition Threshold as determined by ASTM E679 and EN13725.  
**I** - Perceived odor intensity as determined by ASTM E544.  
**HT** - Hedonic Tone value (pleasantness rating).  
**DR** - The slope of the dose-response (dilution-intensity) relationship.  
**C** - Dilution ratio of the odor sample presentation.  
**n, k, n', and k'** - computed constants for the specific odor sample.

# Attachments

St. Croix Sensory, Inc.

## CHAIN OF CUSTODY RECORD FOR ODOR SAMPLES



Client: <i>Nimyo &amp; Moore</i>		Sampled By: <i>Bipul Saref</i>		Odor Evaluations Requested: (X)				Page <u>    </u> of <u>    </u>		
Project Name: <i>Nimyo &amp; Moore</i>		Sampling Date: <i>11/30/2020</i>		Odor Concentration* (Detection & Recognition Threshold) Odor Intensity* (PPM 1-Butanol) Odor Characterization (Hedonic Tone & Descriptors) Odor Persistence ("Dose-Response")				For Laboratory use Only		
Comments:								Odor Evaluation Report No. <i>2033701</i>		Laboratory Sample No. LN      FN
Line No.	Field No.	Sample Description	Sample Time	Field H <sub>2</sub> S (ppm)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	LN	FN
1	<i>Inside AAA</i>	<i>General Air Sample</i>	<i>1245</i>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
2										
3										
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11										
12										

Transmittal		Relinquished By	Date	Time	Accepted By	Date	Time	Comments & Exceptions Noted
Number of Shipping Boxes	<u>1</u>	<i>[Signature]</i>	<i>11/30/20</i>	<i>1255</i>	<i>[Signature]</i>	<i>12/2/20</i>	<i>9:30 AM</i>	
		Received at St. Croix Sensory Laboratory						

\*Odor Concentration: ASTM E679-04 & EN13725:2003 and Odor Intensity: ASTM E544-10  
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