

From: [Danelski, Denise D - DNR](#)
To: [Danelski, Denise D - DNR](#)
Subject: FW: Isopropyl Alcohol Notification for Chem Design Products: Concurrence for NAR
Date: Wednesday, October 26, 2016 12:36:12 PM

From: Beggs, Tauren R - DNR
Sent: Wednesday, October 26, 2016 10:19 AM
To: Klauk, Robert H - DNR
Subject: Isopropyl Alcohol Notification for Chem Design Products: Concurrence for NAR

Hi Bob,

Based on the discussions with Ted and me, I concur that this should be a NAR.

Thanks,

We are committed to service excellence.

Visit our survey at <http://dnr.wi.gov/customersurvey> to evaluate how I did.

Tauren R. Beggs

Hydrogeologist & Northeast Region Land Recycling Expert
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
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dnr.wi.gov



Notification For Hazardous Substance Discharge (Non-Emergency Only)

Form 4400-225 (09/13) Page 1 of 2

Emergency Discharges / Spills should be reported via the 24-Hour Hotline: 1-800-943-0003

Notice: Hazardous substance discharges must be reported immediately according to s. 292.11 Wis. Stats. Non-emergency hazardous substance discharges may be reported by telefaxing or e-mailing a completed report to the Department, or calling or visiting a Department office in person. If you choose to notify the Department by telefax or by email, you should use this form to be sure that all necessary information is included. However, use of this form is not mandatory. Under s. 292.99, Wis. Stats., the penalty for violating the reporting requirements of ch. 292 Wis. Stats., shall be no less than \$10 nor more than \$5000 for each violation. Each day of continued violation is a separate offense. It is not the Department's intention to use any personally identifiable information from this form for any purpose other than program administration. However, information submitted on this form may also be made available to requesters under Wisconsin's Open Records Law (ss. 19.31 – 19.39, Wis. Stats.).

Confirmatory laboratory data should be included with this form, to assist the DNR in processing this Hazardous Substance Release Notification.

Complete this form. **TYPE or PRINT LEGIBLY.** NOTIFY appropriate DNR region (see next page) **IMMEDIATELY** upon discovery of a potential release from (check one):

- Underground Petroleum Storage Tank System (additional information may be required for Item 6 below)
- Aboveground Petroleum Storage Tank System
- Dry Cleaner Facility
- Other - Describe: Isopropyl Alcohol from a crack in a collection sump

ATTN DNR: **R & R Program Associate**

Date DNR Notified: 10/10/2016

1. Discharge Reported By

Name Thomas Willis	Firm ChemDesign Products	Phone No. (include area code) (715) 735-8263
Mailing Address 2 Stanton Street, Marinette, WI 54143	Email Address twillis@chemdesign.com	

2. Site Information

Name of site at which discharge occurred. Include local name of site/business, not responsible party name, unless a residence/vacant property. ChemDesign Products

Location: Include street address, not PO Box. If no street address, describe as precisely as possible, i.e., 1/4 mile NW of CTHs 60 & 123 on E side of CTH 60. 2 Stanton Street, Marinette, WI Building 70

Municipality: (City, Village, Township) Specify municipality in which the site is located, not mailing address/city.

Marinette, WI

County: Marinette	Legal Description: ___ 1/4 ___ 1/4 Sec ___ Tn ___ Range ___ <input type="radio"/> E <input type="radio"/> W	WTM: X ___ 877163 ___ Y ___ 450861
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3. Responsible Party (RP) and/or RP Representative

Responsible Party Name: Business or owner name that is responsible for cleanup. If more than one, list all. Attach additional pages as necessary.

ChemDesign Products

- Reported in compliance with s. 292.11(2), Wis. Stats., by a local government exempt from liability under s. 292.11(9)(e), Wis. Stats. For more information see <http://dnr.wi.gov/topic/Brownfields/Liability.html>.

Contact Person Name (if different)	Phone Number	Email Address	
Mailing Address	City	State	ZIP Code

Property owner if Different From RP: Business or owner name that is responsible for cleanup. If more than one, list all. Attach additional pages as necessary.

Contact Person Name (if different)	Phone Number	Email Address	
Mailing Address	City	State	ZIP Code

(continued)

4. Hazardous Substance Information

Identify hazardous substance discharged (check all that apply):

- | | | |
|--|---|---|
| <input type="checkbox"/> VOC's | <input type="checkbox"/> Diesel | <input type="checkbox"/> PERC (Dry Cleaners) |
| <input type="checkbox"/> PAH's | <input type="checkbox"/> Fuel Oil | <input type="checkbox"/> RCRA Hazardous Waste |
| <input type="checkbox"/> Metals (specify): _____ | <input type="checkbox"/> Gasoline | <input type="checkbox"/> Leachate |
| <input type="checkbox"/> Arsenic | <input type="checkbox"/> Hydraulic Oil | <input type="checkbox"/> Fertilizer |
| <input type="checkbox"/> Chromium | <input type="checkbox"/> Jet Fuel | <input type="checkbox"/> Pesticide/Herbicide/Insecticide(s) |
| <input type="checkbox"/> Cyanide | <input type="checkbox"/> Mineral Oil | <input checked="" type="checkbox"/> Other (specify): <u>Isopropyl Alcohol</u> |
| <input type="checkbox"/> Lead | <input type="checkbox"/> Waste Oil | <input type="checkbox"/> Unknown |
| <input type="checkbox"/> PCB's | <input type="checkbox"/> Petroleum-Unknown Type | |

5. Impacts to the Environment Information

Enter "K" for known/confirmed or "P" for potential for all that apply.

- | | | |
|---|---|--|
| <input type="checkbox"/> Air Contamination | <input type="checkbox"/> Sanitary Sewer Contamination | <input type="checkbox"/> Soil Contamination |
| <input type="checkbox"/> Co-Contamination (Petroleum & Non-Petroleum) | <input type="checkbox"/> Contamination in Right of Way | <input type="checkbox"/> Storm Sewer |
| <input type="checkbox"/> Contamination Within 1 Meter of Bedrock | <input type="checkbox"/> Fire Explosion Threat | <input type="checkbox"/> Surface Water Contamination |
| <input type="checkbox"/> Contaminated Private Well | <input type="checkbox"/> Free Product | <input type="checkbox"/> Within 100 ft of Private Well |
| <input type="checkbox"/> Contaminated Public Well | <input checked="" type="checkbox"/> Groundwater Contamination | <input type="checkbox"/> Within 1000 ft of Public Well |
| <input type="checkbox"/> Contamination in Fractured Bedrock | <input type="checkbox"/> Off-Site Contamination | |
| | <input type="checkbox"/> Other (specify): _____ | |

Contamination was discovered as a result of:

- | | | |
|--|--|--|
| <input type="checkbox"/> Tank closure assessment | <input type="checkbox"/> Site assessment | <input checked="" type="checkbox"/> Other - Describe: <u>Stormwater Sampling</u> |
| Date: <input type="text"/> | Date: <input type="text"/> | Date: <input type="text" value="10/10/2016"/> |

Lab results: Lab results will be faxed upon receipt Lab results are attached

Additional Comments: Include a brief description of immediate actions taken to halt the release and contain or cleanup hazardous substances that have been discharged.

Crack found in sealed sump, Isopropyl Alcohol will no longer be released into sealed sump and will be put into containers.

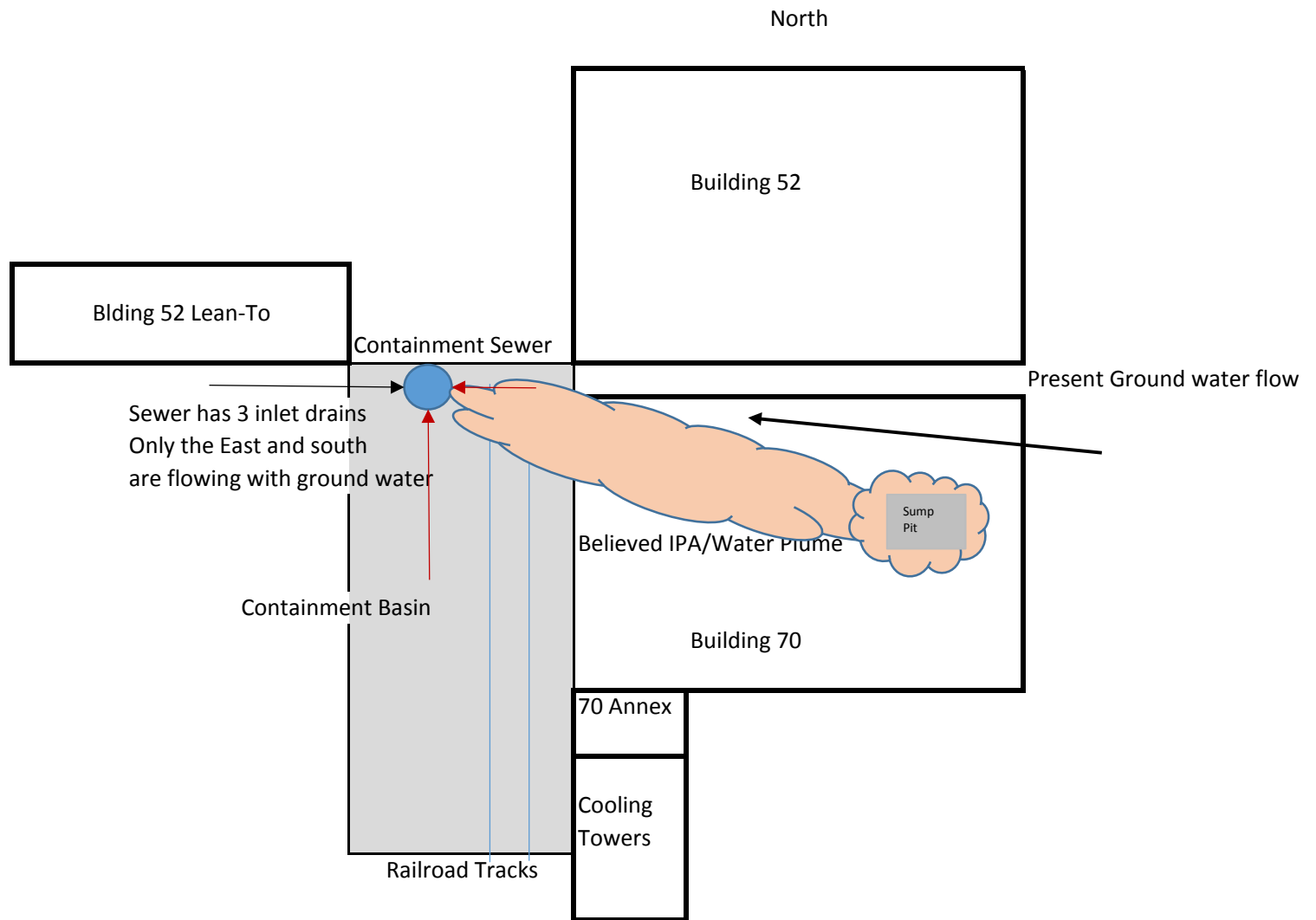
6. Federal Energy Act Requirements (Section 9002(d) of the Solid Waste Disposal Act (SWDA))

For all confirmed releases from UST's occurring after 9/30/2007 please provide the following information:

- | | <u>Source</u> | <u>Cause</u> |
|--|---|--|
| <input type="checkbox"/> Does not apply. | <input type="checkbox"/> Tank | <input type="checkbox"/> Spill |
| | <input type="checkbox"/> Piping | <input type="checkbox"/> Overfill |
| | <input type="checkbox"/> Dispenser | <input type="checkbox"/> Corrosion |
| | <input type="checkbox"/> Submersible Turbine Pump | <input type="checkbox"/> Physical or Mechanical Damage |
| | <input type="checkbox"/> Delivery Problem | <input type="checkbox"/> Installation Problem |
| | <input type="checkbox"/> Other (specify): _____ | <input type="checkbox"/> Other (does not fit any of above) |
| | | <input type="checkbox"/> Unknown |

Contact information to report non-emergency releases in DNR's five regions are as follows:

- Northeast Region (FAX: 920-662-5197); Attention -- R&R Program Associate: DNRRRNER@wisconsin.gov**
Brown, Calumet, Door, Fond du Lac (except City of Waupun - see South Central Region), Green Lake, Kewaunee, Manitowoc, Marinette, Marquette, Menominee, Oconto, Outagamie, Shawano, Sheboygan, Waupaca, Waushara, Winnebago counties
- Northern Region (FAX: 715-623-6773); Attention -- R&R Program Associate: DNRRRNOR@wisconsin.gov**
Ashland, Barron, Bayfield, Burnett, Douglas, Forest, Florence, Iron, Langlade, Lincoln, Oneida, Polk, Price, Rusk, Sawyer, Taylor, Vilas, Washburn counties
- South Central Region (FAX: 608-273-5610); Attention -- R&R Program Associate: DNRRRSCR@wisconsin.gov**
Columbia, Dane, Dodge, Fond du Lac (City of Waupun only), Grant, Green, Iowa, Jefferson, Lafayette, Richland, Rock, Sauk, Walworth counties
- Southeast Region (FAX: 414-263-8550); Attention -- R&R Program Associate: DNRRRSER@wisconsin.gov**
Kenosha, Milwaukee, Ozaukee, Racine, Washington, Waukesha counties
- West Central Region (FAX: 715-839-6076); Attention -- R&R Program Associate: DNRRRWCR@wisconsin.gov**
Adams, Buffalo, Chippewa, Clark, Crawford, Dunn, Eau Claire, Jackson, Juneau, LaCrosse, Marathon, Monroe, Pepin, Pierce, Portage, St. Croix, Trempealeau, Vernon, Wood counties



Building 70 Sump Pit Leak Calculations

Generated and Calculated By: Kevin Possi Date: 10/13/16

The building 70 sump pit has been found to be cracked, 100% around. As a result of this, the bottom portion of the sump pit has settled, resulting in an open crack to the soil beneath the sump pit of approximately ¼ to ½ inch in width. The crack was identified on Thursday October 7, 2016 and is new in origin (within last 4 months).

During this time, dryer distillate was collected to a receiver then drained via the sump pit to totes for further processing. Using the information gathered from the building containment area for rainwater collection, the sump pit size versus the volume of water/IPA used per batch, sump pit leak rate testing, and the assay of the distillate stream, a worst case estimate of leakage was determined. Note that a fair amount of this material was collected in the containment manway which collects rainwater from around building 52/70. Note that rainwater from this area that contains IPA is collected and sent to Milwaukee POTW for disposal.

The following calculations will be used to determine the quantity of contained Isopropyl Alcohol (IPA) that leaked to contained areas as a result.

The following factors are Known Values that will be used in the calculations:

Knowns	Value	Source of Data
Date of First IPA Identification in Rain Collection Area	5/29/16	Puddle Sampling History
Batch Quantity Impacting Sump Pit	161	Batch Historical Production Data (Quantity of Batches since first indications of IPA in puddle water until sump pit isolated and dried from further service on 10/7/16)
Weight of Dryer Distillate Sent to Sump Pit	613 pounds/batch	Average Weight of Distillate Removed from Dryer
Dryer Distillate IPA Assay	80% water, 20 % IPA	Dryer Distillate Sample Analyzed via an Internal Standard Validated Method
Water Density	8.345 pounds per gallon	Safety Data Sheet
Isopropanol Density	6.593 pounds per gallon	Safety Data Sheet

Collected dryer distillate that went into Building 70 sump pit had a volume based on the weight collected (average 613 pounds/batch) and the ratio of IPA/water in the distillate. The volume per batch is:

$$\text{Density} = 8.345 \times 0.799 \text{ (water fraction)} + 6.593 \times 0.201 \text{ (IPA fraction)} = 7.993 \text{ pounds/gallon}$$

$$\text{Volume} = 613 \text{ pounds} \div 7.994 \text{ pounds/gallon} = 76.7 \text{ gallons per batch}$$

Each time the sump pit was filled, it was later emptied. Operators were interviewed to determine how long the volume of dryer distillate would remain in the sump pit before drained (Dan Potter, Jason Makosky, Jason Strampp). All operators indicated this would be 30-45 minutes. To be conservative, 1 hour will be utilized in calculations.

Building 70 Sump Pit Leak Calculations

Generated and Calculated By: Kevin Possi Date: 10/13/16

Following identification of the crack, the sump pit was filled with clean water and leak rates were calculated based on measuring sump pit wet inches at specific time intervals. Attachment 'A' depicts the sump pit dimensions used for calculating a wet volume of liquid in the pit. Attachment 'B' depicts the crack orientation in relation to these dimensions.

Leak rate data can then be used to determine the average quantity leaked from the sump pit, based on the average "full" level over the 1 hour interval in which liquid remained in the sump pit. The following table depicts tabulated data from the leak rate measurements and corresponding interpolated starting and ending values. Values at the 5, 6, 64 and 66 minute marks are actual measured data points. Interpolation was then used to determine the time for the 76.7 gallon starting point and the corresponding 1 hour data point.

Mins Into Draining	Wet Inches	Volume (gallons)	Date Type
5	20	77.3	Measured Data
5.6	19.85	76.7	Interpolated Data
6	19.75	76.3	Measured Data
64	16.375	63.3	Measured Data
65.6	16.275	62.9	Interpolated Data
66	16.25	62.8	Measured Data

From this data, it can then be determined that the average quantity leaked from the sump pit per batch is:

$$76.7 \text{ gallons (starting point)} - 62.9 \text{ gallons (1 hour later)} = 13.8 \text{ gallons per batch}$$

From the point of first identification of IPA in puddles until identification of the sump pit leak, 161 batches were processed. To account for time for IPA to show up in puddles, 1 additional week of production time is being added to the calculation. This is 9 additional batches. Total number of batches that could have resulted in IPA leakage is therefore 170 batches.

It is estimated based on interviews, that 80% of operators may have been draining the receiver in this manner (to sump pit). However, this cannot be fully quantified. To be conservative, 100% of all batches will be used in the final calculation of how much IPA was leaked to surrounding contained areas.

$$\text{Total Volume Leaked from Sump Pit} = 170 \text{ batches} \times 13.8 \text{ gallons per batch leakage} = 2346 \text{ gallons}$$

$$\text{Volume of Distilled Water Leaked} = 2346 \text{ gallons} \times 0.799 \text{ (water fraction)} = 1874.5 \text{ gallons}$$

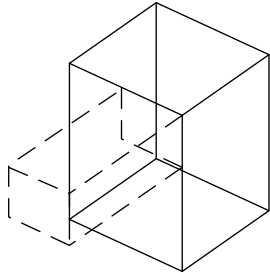
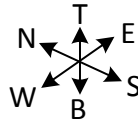
$$\text{Volume of IPA Leaked} = 2346 \text{ gallons} \times 0.201 \text{ (IPA fraction)} = 471.5 \text{ gallons}$$

In conclusion, the estimated total volume of Isopropyl Alcohol leaked from the damaged sump pit and the majority collected in a contained area, during the duration of time in which sump pit was damaged, is estimated to be 471.5 gallons.

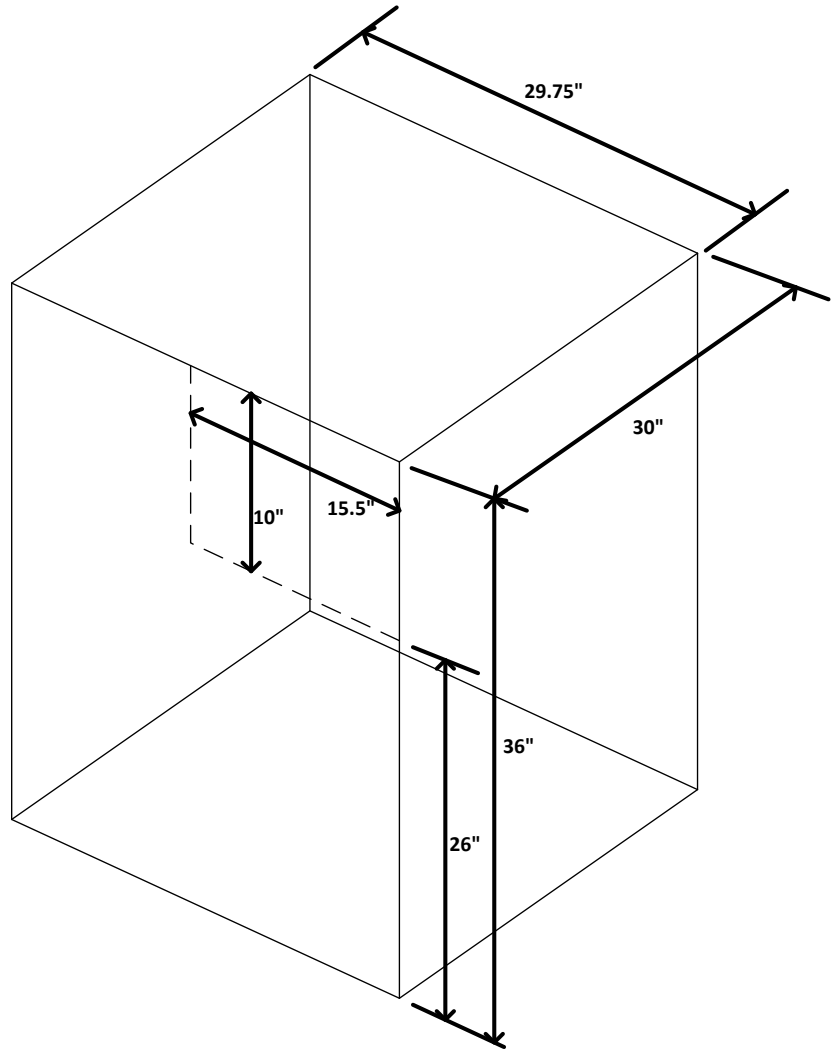
Building 70 Sump Pit Leak Calculations

Generated and Calculated By: Kevin Possi Date: 10/13/16

Attachment 'A' – Building 70 Sump Pit Dimensions



**Sump Pit with
Trench Orientation**

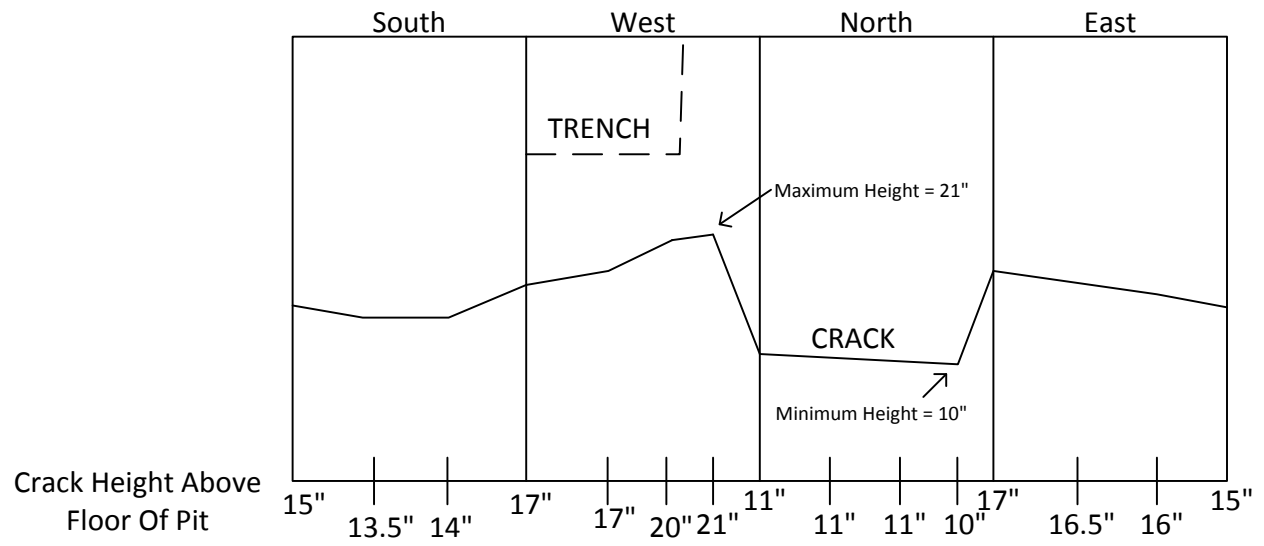


**Sump Pit
Dimensions**

Building 70 Sump Pit Leak Calculations

Generated and Calculated By: Kevin Possi Date: 10/13/16

Attachment 'B' – Building 70 Sump Pit Crack Orientation



Sump Pit Crack Layout within Pit