

Enbridge Pipelines (Lakehead) L.L.C.  
119 N 25<sup>th</sup> Street E  
Superior, WI 54880-5247  
www.enbridgepartners.com

Jay Johnson  
Senior Compliance Coordinator  
Tel 715 394 1512  
Fax 715 394 1500  
jay.johnson@enbridge.com



September 18, 2007

Ivan A Huntoon  
Central Region – PHMSA  
901 Locust Street, Room 462  
Kansas City MO 64106-2641

RE: CPF - 3 - 2007 - 5022

Dear Mr. Huntoon:

Pursuant to the above mentioned Pipeline and Hazardous Materials Safety Administration (PHMSA) Notice of Probable Violation and Proposed Civil Penalty, Enbridge Pipelines North Dakota LLC (EPND) is submitting written explanations, information and other materials regarding the merits of the allegations. EPND is seeking mitigation or elimination of the proposed civil penalty as outlined in the Response Options for Pipeline Operators in Compliance Proceedings.

EPND's request to mitigate the proposed civil penalty is based on:

1. EPND's effective response to incident and cleanup,
2. EPND's prompt and effective mitigative and corrective actions,
3. Minimal impact to Public Safety and the Environment,
4. EPND's cooperative response and open relationship with PHMSA,
5. EPND's excellent operational history.

As detailed in the post mortem template, (previously submitted) EPND responded quickly and effectively to isolate and limit the release. Ensuing containment, all free product was recovered and all impacted soil was properly disposed. The release was totally contained on EPND property and therefore did not pose any threats to public safety. However, ground water monitoring wells were installed in the vicinity to ensure no product escaped the containment area.

Following the incident, a committee comprised of subject matter experts from Operations, Engineering and Management developed a list of corrective actions and lessons learned utilizing the Det Norske Veritas Systematic Cause Analysis Technique. Both root cause and non-critical improvements were identified. From this a revision to the Operating and Maintenance Manual was issued which was immediately reviewed by all engineering and field personnel. The Incident Report was also circulated for review. In addition, EPND has completed a Facility Integrity Risk Assessment on all station facilities and has focused efforts to address dead leg, idle and low flow piping.

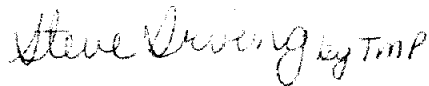
During the course of investigating this incident, EPND kept Central Region PHMSA updated via phone and electronic communications such as; photographs, thermal calculations and the root cause analysis. It is our policy to determine the cause and communicate the corrective measures within the Enbridge companies to avert any possible reoccurrences. As part of our investigations, we value the comments and concerns expressed by PHMSA and take them all into consideration.

Materials attached for your review are:

- Operating and Maintenance Procedures Manual revision
- Incident Investigation corrective action status list
- Facility Integrity Assessment Program

In conclusion, EPND is committed to operating in full regulatory compliance and has an excellent record of working jointly with PHMSA to ensure pipeline safety. Therefore, we respectfully request that PHMSA review our request to mitigate or eliminate the proposed civil penalties. If you have any questions or require additional information please contact Jay Johnson in our Superior office at 715/394-1512.

Sincerely,

A handwritten signature in cursive script that reads "Steve Irving" followed by "by TMP" in a smaller, less legible script.

Steve Irving  
Director, System Integrity and Compliance

cc: Janet Holder  
Brian Johnson  
Jay Johnson  
Terry McGill  
Mark Willoughby



Name:     Matt Faith     Date:     02/21/07    

Subject Title:     Overview of Pipeline Repair/Replacement/Relocation/Abandonment    

Subject No.:     11.1 (page 141)    

Existing wording:     None    

Proposed wording:     Considerations when modifying station or above ground piping:    

1. Does modification create a section of dead leg below ground piping that could result in a corrosion risk?  
    Modify design or refer to "Facilities Integrity Management Program guideline for the management of corrosion of facility piping" for mitigative requirements.    

2. Does modification create a section of isolated piping that could be exposed to overpressure due to thermal effects? Refer to Enbridge Standard D12-104 Pressure Relief for requirements.  
    

3. Can the modification be done to eliminate, reduce or simplify the existing piping?  
    

Reason for Change:     Added to clarify design requirements and reference Enbridge standards to incorporate when changing above ground or station piping. This is a recommendation following the overpressure incident at Stanley Station.    

**CRITICAL REVISION 01**

*Forward to the Manual Administrator, Val Lavik , in the EPND Regional Office*

Item	Description	Status	Comments
1	Raise awareness of dead legs and their susceptibility to thermal expansion	Complete	Awareness raised in safety meeting as incident and OMP revision was discussed. Specifically the thermal effect was discussed and ways to avoid, and requirements of the Engineering standard
2	Perform System review of dead leg piping	Complete	Additional resources were obtained to complete a total system review prior to 3rd Quarter.
3	Revise O&MP to include guidelines to ensure modifications do not create dead legs	Complete	Reader is referred to engineering standard and advised to consult it when modifying piping

# Facility Integrity Assessment Program



For The Enbridge North Dakota  
System

# Overview

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- Problem Statement
- Risk Ranking Overview
- Risk Ranking Sample Station
- Results
- Corrosion Management Process

# Problem Statement

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- Pipeline systems are inherently susceptible to corrosion, both external and internal.
- The intent of this program is to serve as a guideline for the identification of dead legs, idle pipe and low flow pipe at station and terminal facilities.
- This program has been adapted from Enbridge mainline system and has not been done before on the North Dakota system.

# Risk Ranking Factors

- There are six factors considered in this program. Each factor is given a relative weight. These weights are determined from Industry and Enbridge standards. They are:
  - Environmental (EV) = 45%
  - Piping Age (AG) = 10%
  - Usage (UG) = 20%
  - Line Product (LP) = 15%
  - Size (SZ) = 5%
  - Physical Distribution (PD) = 5%



# Risk Ranking Score

- Each Risk Ranking Factor will be assigned a score between 1 and 5 from the following definitions.

# Environmental (EV) = 45%

- **Category 5** - Zones close to water; in the event of a leak, crude oil will go to the source and remedial action will be downstream using booms or contingency equipment.
- **Category 4** - Zones close to water channels; in case of leak it has to be stopped by closing the site drainage block valves.
- **Category 3** - Pipes that are in headers and manifolds that can be initially contained but depending on the leak can drain to a water channel
- **Category 2** - Pipe completely inside of dikes or piping that in case of a leak the product can be confined without risk of water contamination.
- **Category 1** - Not specified

# Piping Age (AG) = 10%

- **Category 5** - Over 40 years old
- **Category 4** - From 30 to 40 years old
- **Category 3** - From 20 to 30 years old
- **Category 2** - From 10 to 20 years old
- **Category 1** - Less than 10 years old

# Usage (UG) = 20%

- **Category 5** - Completely idle
- **Category 4** - Used rarely or not often
- **Category 3** - Used once a year
- **Category 2** - Used twice a year
- **Category 1** - Used every month

\*Note, if idle leg is purged with Nitrogen then it is not at risk and is not considered in the program\*

# Line Product (LP) = 15%

- **Category 5** - Heavy Sour Crude Oil
- **Category 4** - Medium Sour and Heavy Sweet Crude Oils
- **Category 3** - Light Sour and Medium Sweet Crude Oils
- **Category 2** - Diesel, Gasoline and Kerosene
- **Category 1** - Light Sweet Crude Oil, Condensate and NGL

\*All Sour is category 5, Blended Sweet is category 4 and Sweet is category 3.

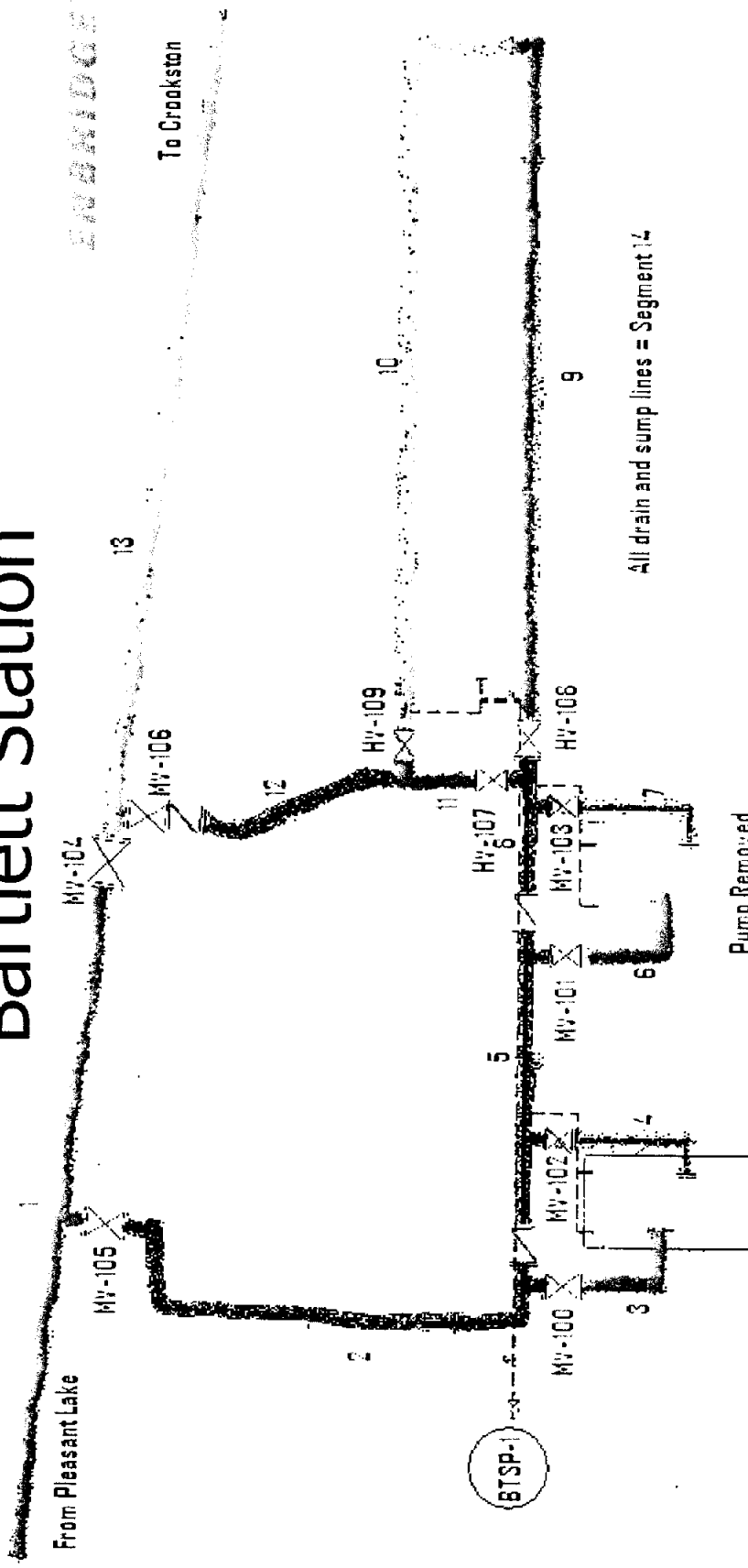
# Size (SZ) = 5%

- **Category 5** - Piping between 36" and 48" in diameter
- **Category 4** - Piping between 24" and 36" in diameter
- **Category 3** - Piping between 12" and 20" in diameter
- **Category 2** - Piping between 4" and 10" in diameter
- **Category 1** - Piping less than 4" in diameter

# Physical Distribution (PD) = 5%

- **Category 5** - Completely underground
- **Category 4** - Combination of below and above grade (80/20)
- **Category 3** - Combination of below and above grade (50/50)
- **Category 2** - Combination of below and above grade (20/80)
- **Category 1** - Completely above ground

# Bartlett Station

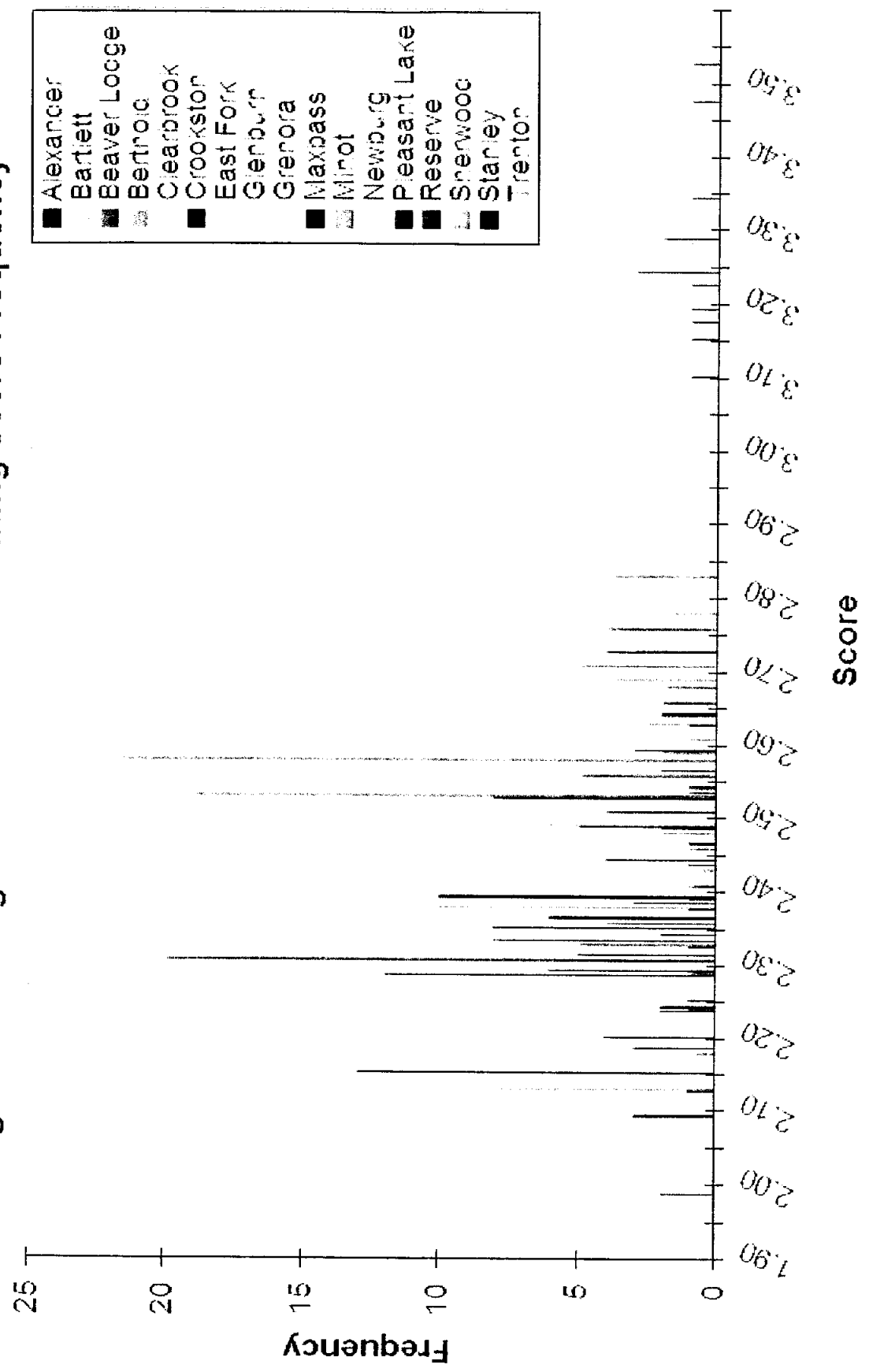


Pump Removed

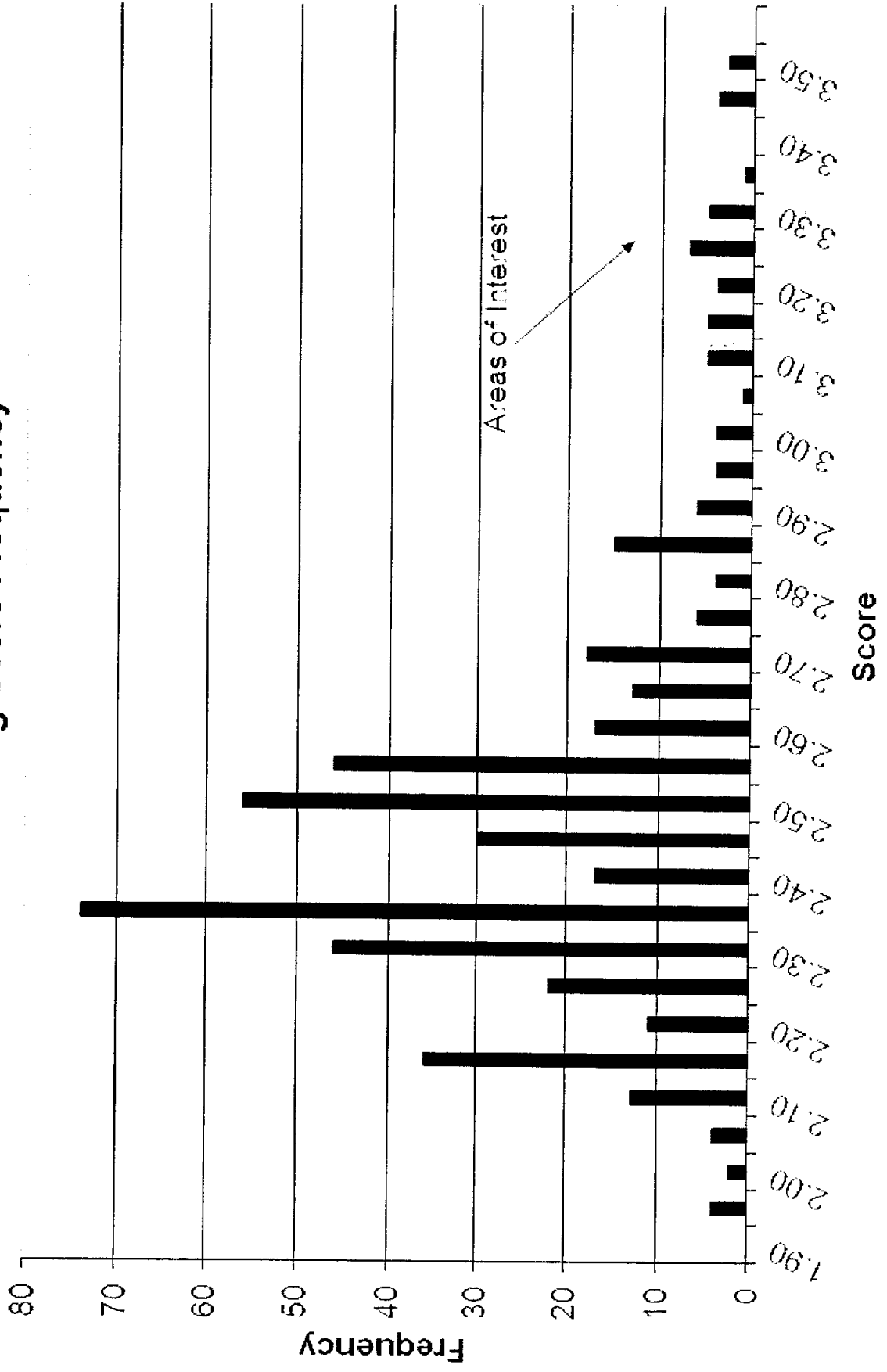
Segment #	From	To	PD - 5%	SZ (in)	SZ - 5%	LP - 15%	UG - 20%	AG - 10%	EV - 45%	SCORE
1	Pleasant Lake	Bartlett	1	16	3	5	1	3	2	2.35
2	VV105	VV100 Check Valve	5	12	3	5	1	3	2	2.55
3	MV100	MP1 Suction	2	10	2	5	1	3	2	2.35
4	MP1 Discharge	VV102	1	8	2	5	1	3	2	2.30
5	MP1 Check Valve MV102	MV101 Check Valve	1	12	3	5	1	3	2	2.35
6	VV101	MP2 Suction	2	10	2	5	5	3	2	3.15
7	MP2 Discharge	MV103	1	8	2	5	5	3	2	3.10
8	MP2 Check Valve	-V107	1	10	2	5	1	3	2	2.30
9	HV106	Segment 10	1	12	3	5	1	3	2	2.35
10	Segment 9	BTCV1 - V109	1	8	2	5	1	3	2	2.30
11	HV107 HV109	Segment 12	1	8	2	5	1	3	2	2.30
12	Segment 11	Check Valve VV106	5	12	3	5	1	3	2	2.55
13	MV104 MV106	Crookston	1	16	3	5	1	3	2	2.35
14	Sump Lines	Sump Lines	5	<4	1	5	1	3	2	2.55



### Histogram Showing Individual Risk Ranking Score Frequency



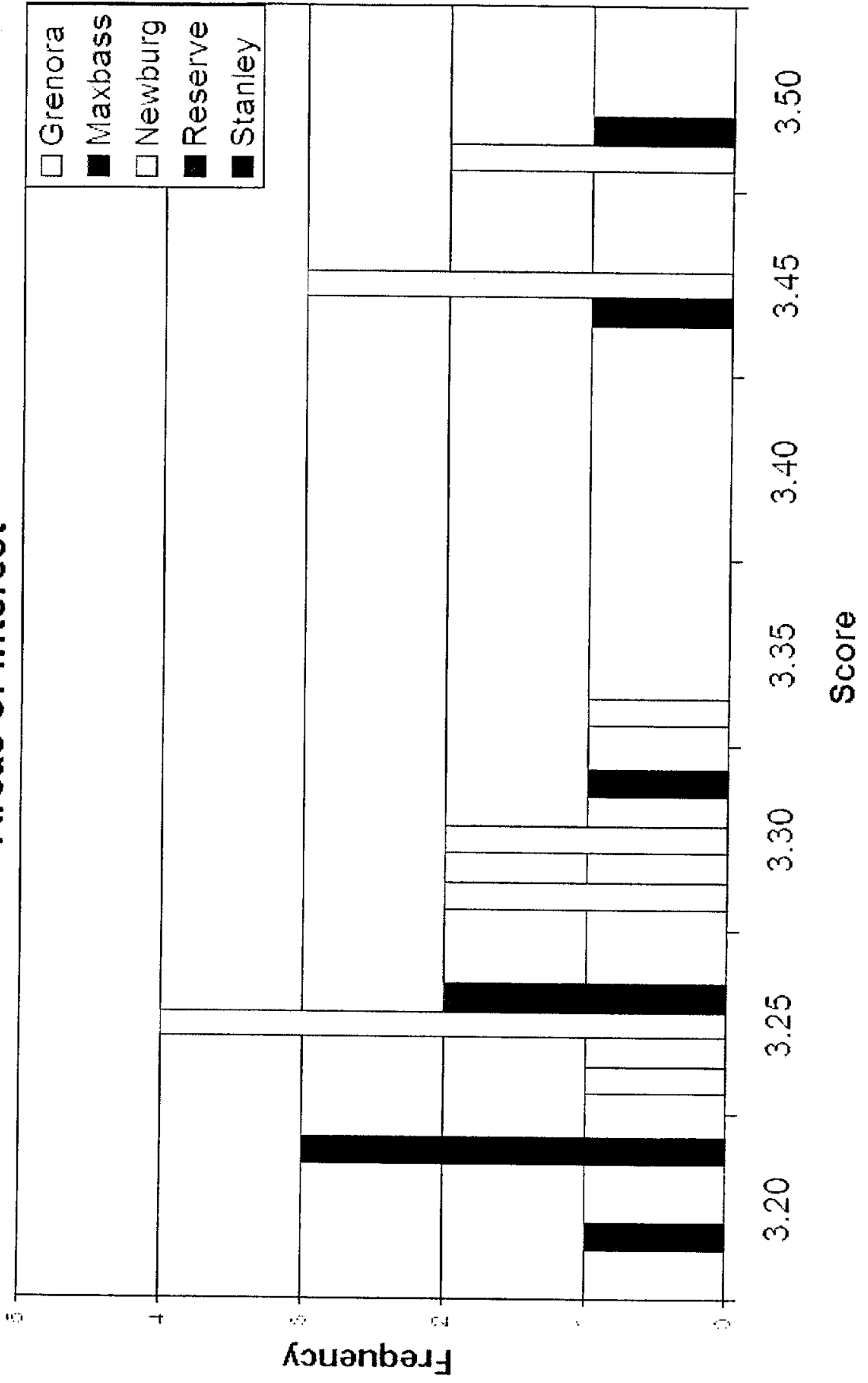
### Risk Ranking Score Frequency





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# Areas of Interest



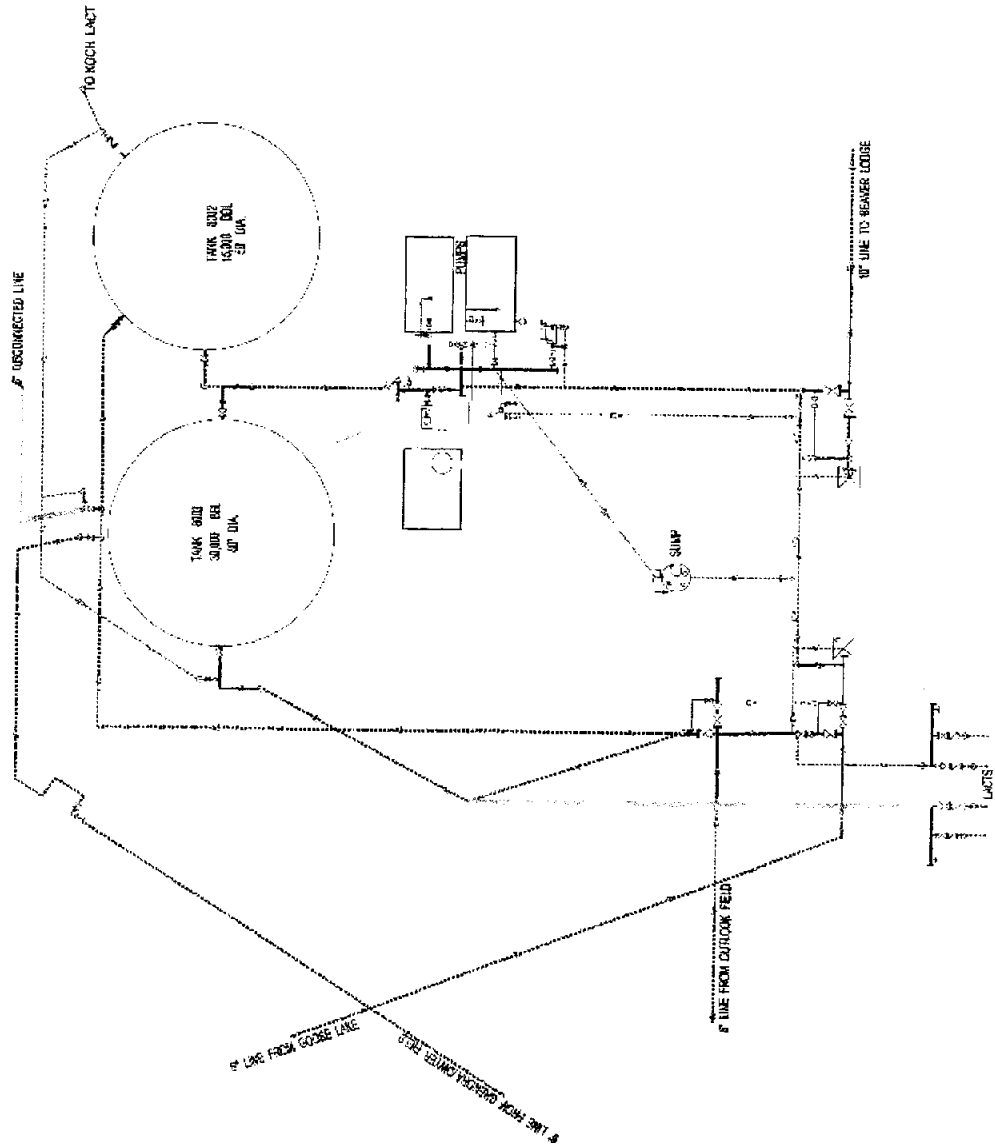
## Focus Areas

- The next few slides will show the highest ranked segments along with their location within each station.

# Segments of Interest

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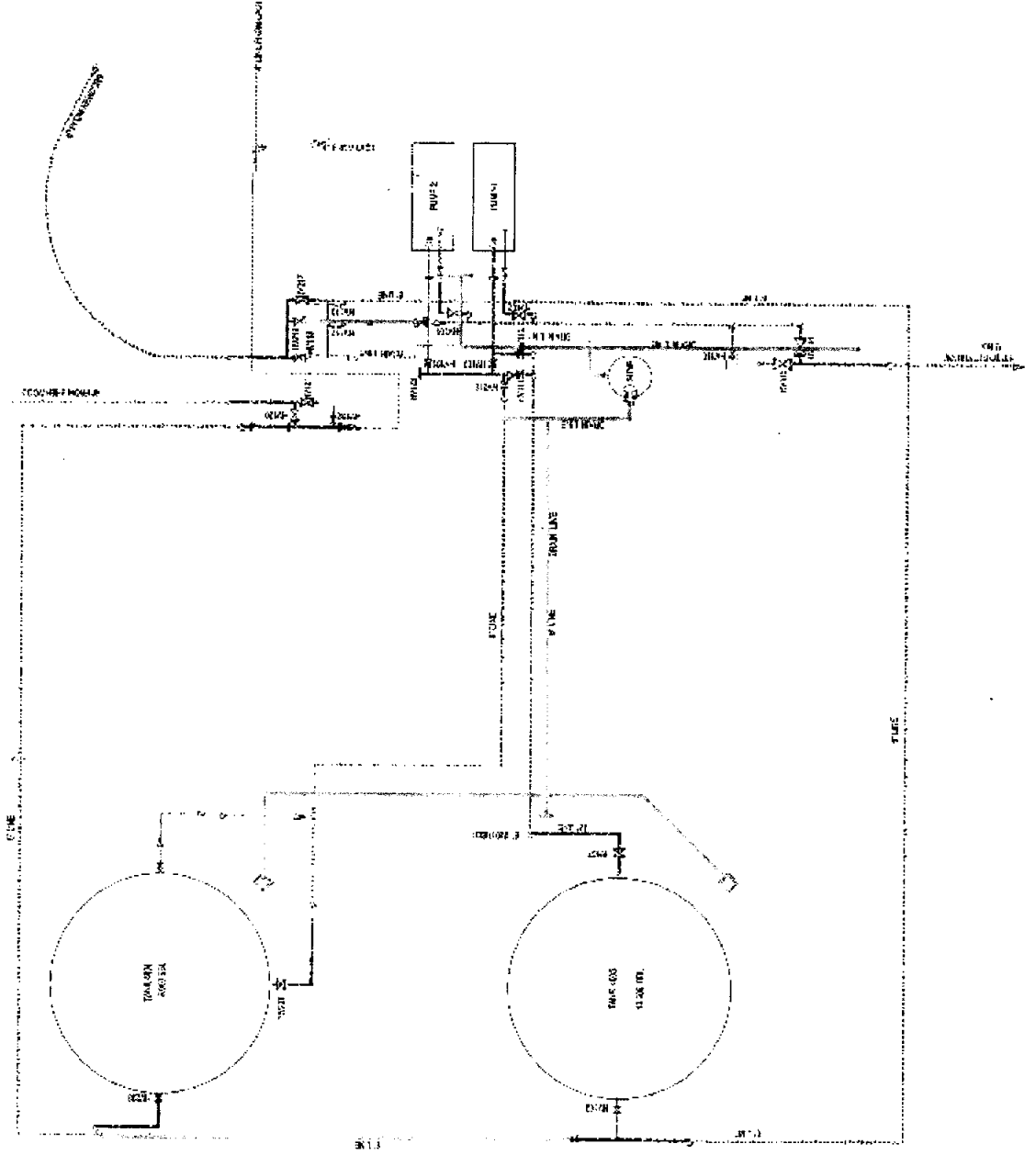
## Grenora



# Segments of Interest

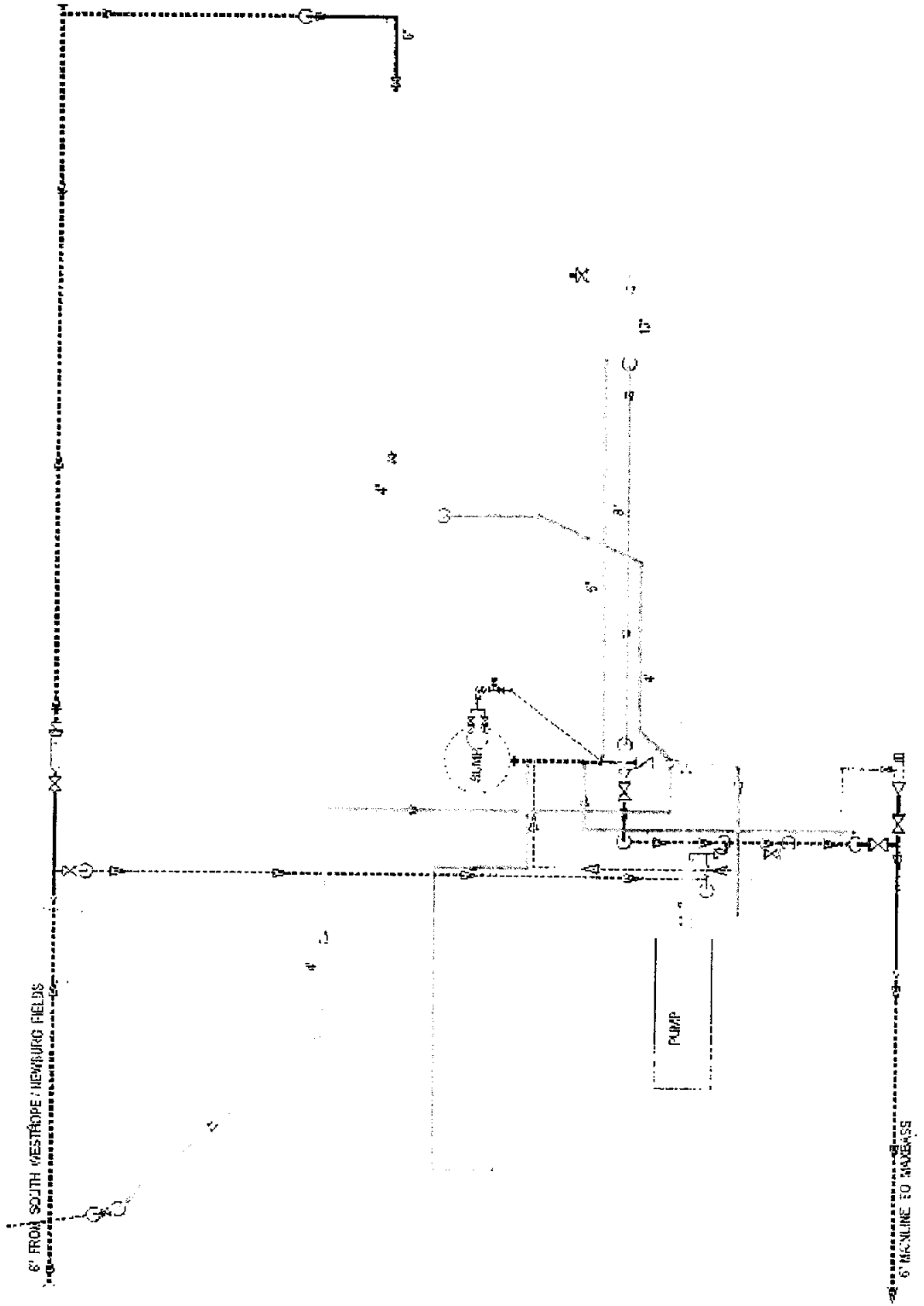
ENVIRONMENTAL

## Maxbass



# Segments of Interest Newburg

ENGINE

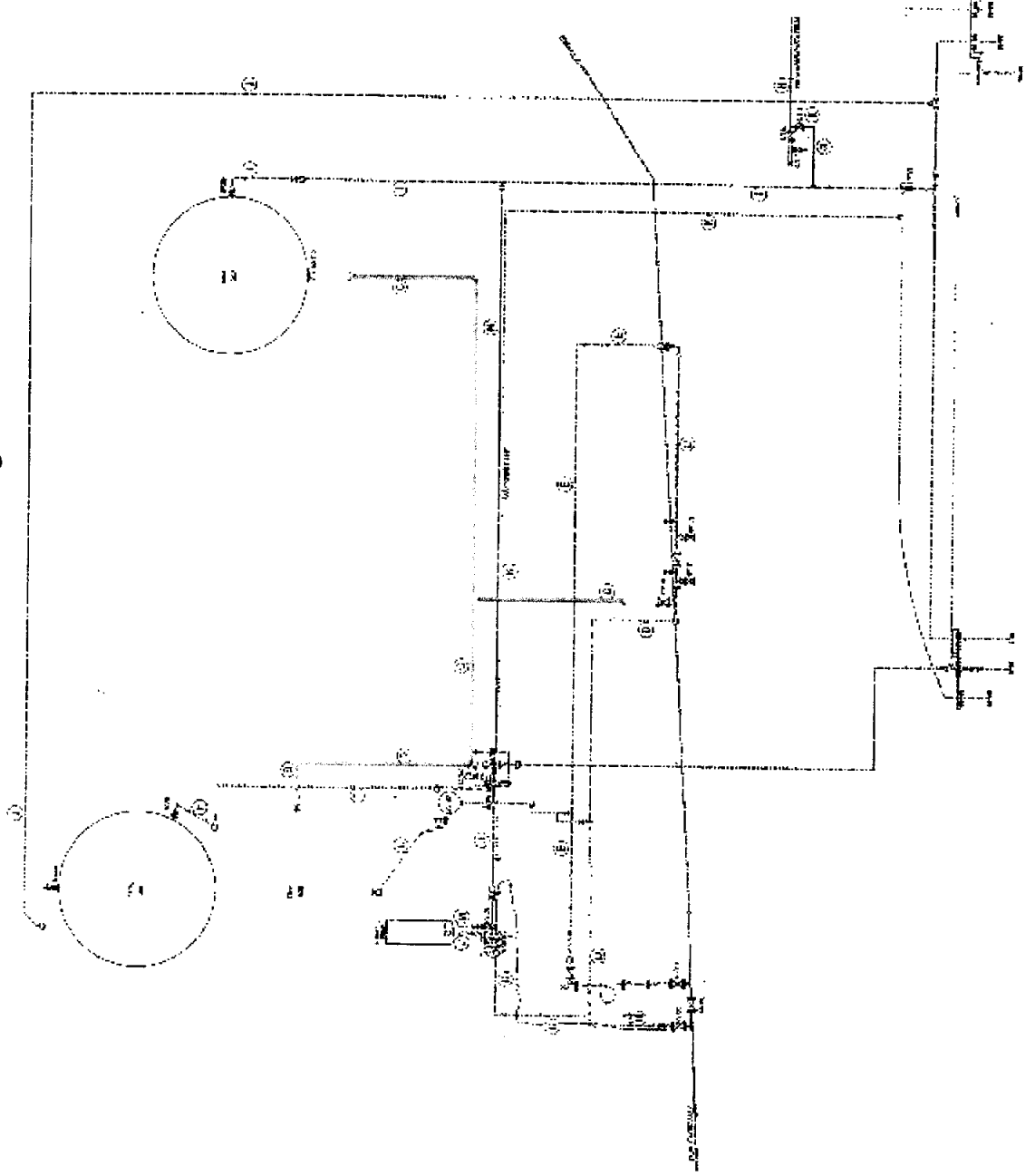






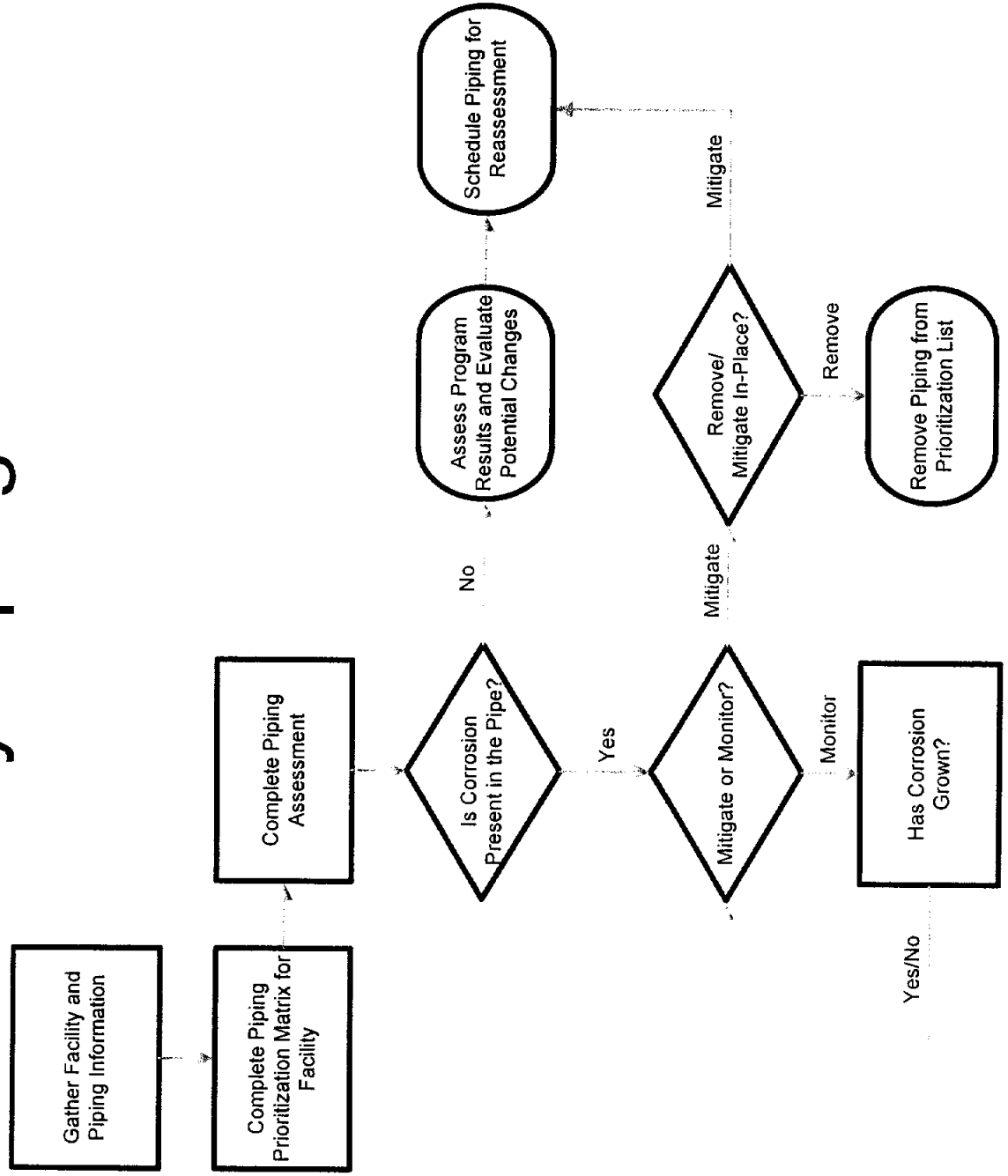
# Segments of Interest Stanley

2000000000



# Corrosion Management of Facility Piping Process

ENR 10/13/03



# Questions?

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