

Remediation Technologies Symposium 2003
Banff, AB

Upstream Remediation in the Urban Environment

Technical and Public Consultation
Challenges

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Overview

- ❑ **Setting the Scene**
- ❑ **Remediation Challenges**
- ❑ **Public Consultation**

The Changing Landscape

From Farm Field
to Urban Fringe



Operating Environment



**Calgary, Alberta
Canada**

Setting the Scene...



Circa 1960

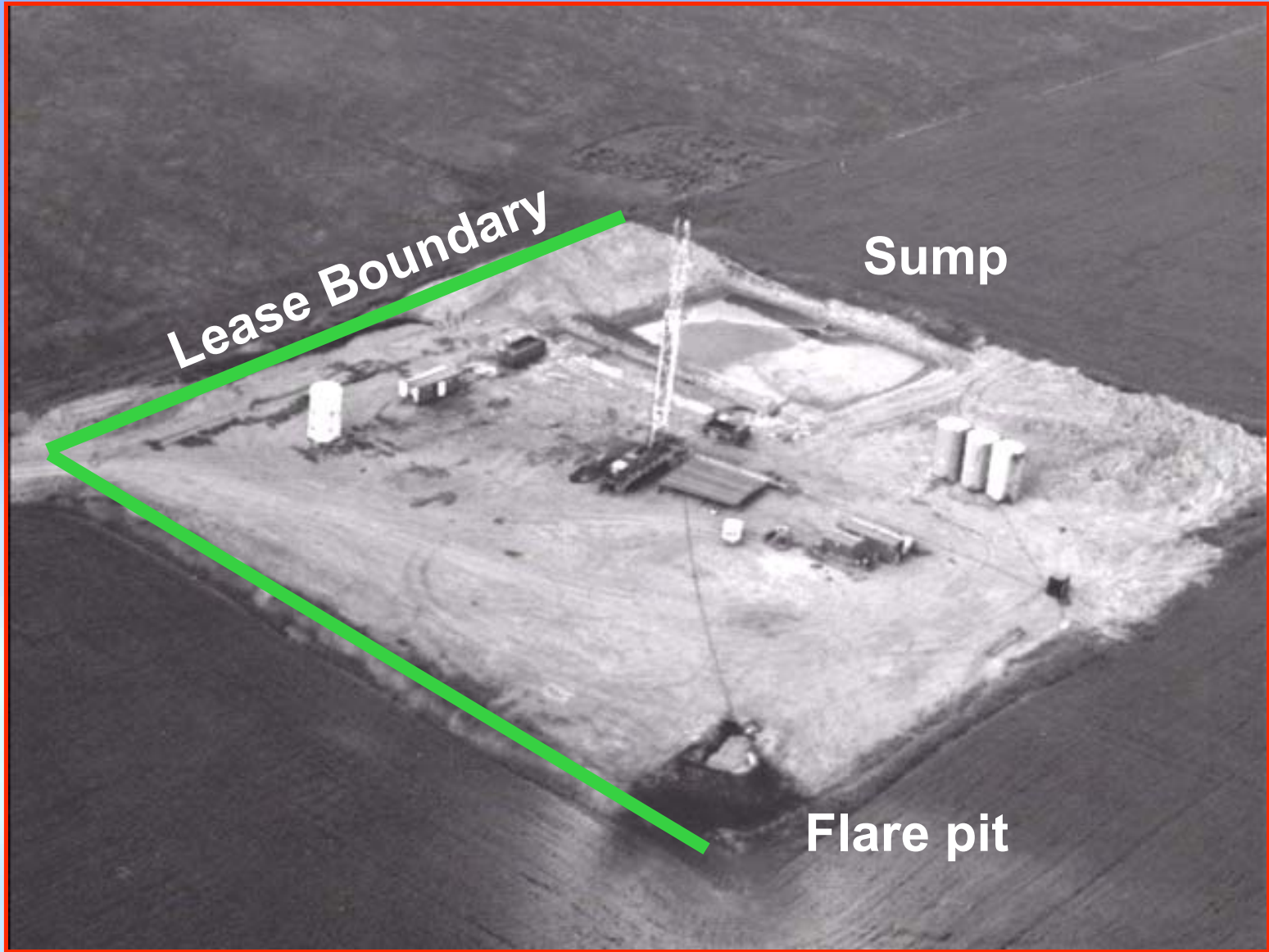


Circa 1998



Jefferson Lake 11-27

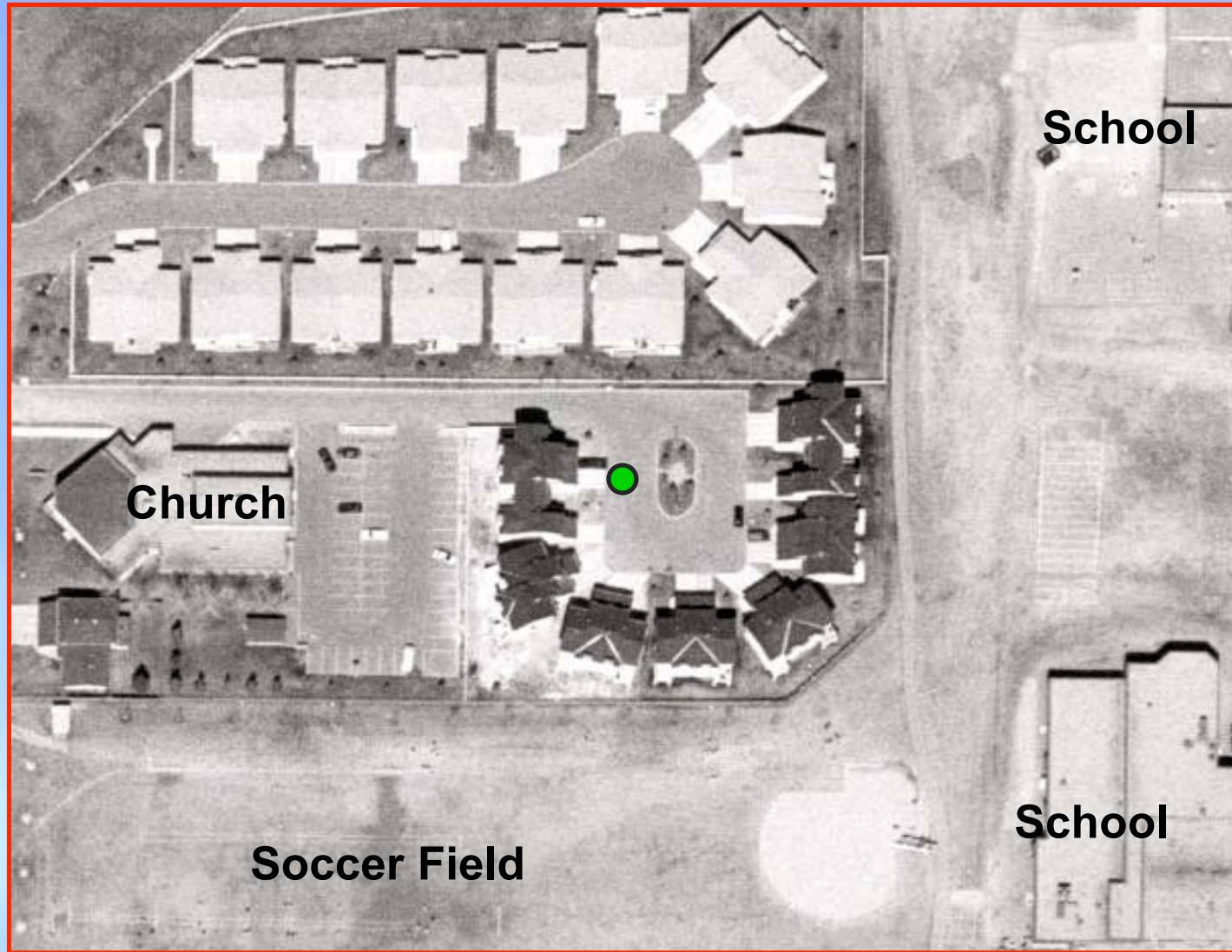




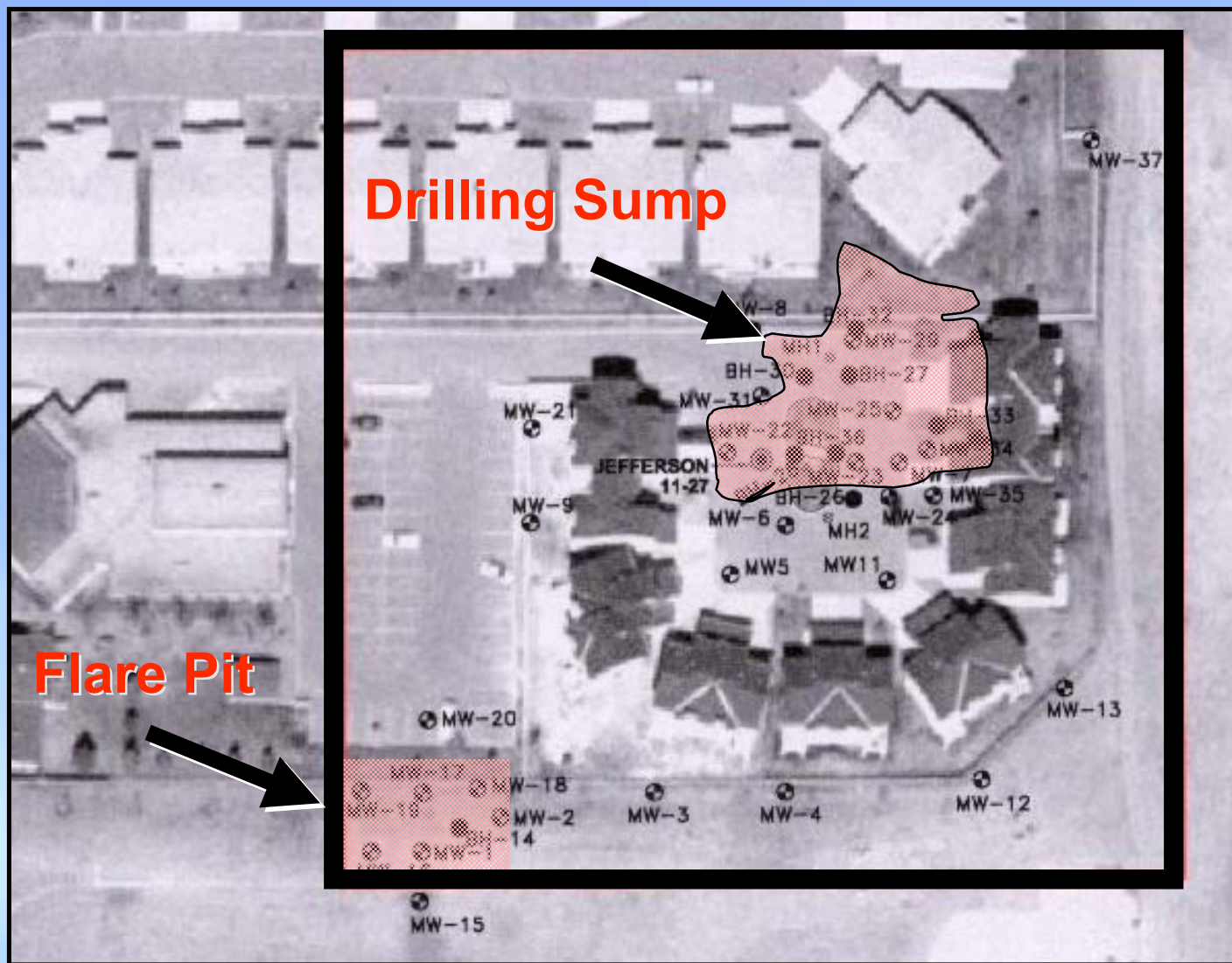


Sump

The Initial Investigation ...



Sampling Program



Diesel Contamination



Wellbore

Material Volumes

Flare Pit

Over-Burden 900 t or 450 m³

Contaminated 2900 t or 1450 m³

Replacement Fill 2900 t or 1450 m³

Truck trips (round) ~200

Sump

Good Over-Burden 900 t or 450 m³

Bad Over-Burden 1240 t or 620 m³

Contaminated 5600 t or 2800 m³

Replacement Fill 6800 t or 3400 m³

Truck trips (round) ~460



Project Team

Specialists vs Turn-key Operations

- ❑ **Draws on strengths of firms**

Lesson Learned

- ❑ **Use separate remediation and restoration contractors**

Remedial Options

Risk Assessment

- 4 Potential Long Term Liability
- 4 Longer Project Life
- 4 Difficulty with Public Buy-In

Excavation & Disposal

- 4 Removes Liability
- 4 Short Time-frame
- 4 Easier Public Buy-In

Remediation Timeframe

Parallel Paths: Assessment and Remediation

- ❑ Provided example to residents of the remediation efforts to be undertaken on their properties.
- ❑ Proved to the regulators and the residents the Project Team's ability to undertake the project and deliver on their promises.
- ❑ Provided a trial run for the cul-de-sac remediation program.
- ❑ Shortened project timeframe.

Fill Material

Important to...

- ❑ **Assess environmental quality of fill materials.**
- ❑ **Assess suitability of fill material for intended re-use.**

Under the Garages...



Slot Cutting Under the Foundation...



Chasing the Contamination...



Utilities & Wellbore



5 Weeks Later...



Public Consultation

The Pay Forward Principle

- ❑ **Actively involving the public and community in the decisions that may impact their lives or livelihood.**
- ❑ **Communities have a legitimate right-to-know about our planned and on-going activities and to participate in decision-making for issues that affect them.**

Public Consultation

Goals:

- ❑ **Maximize Opportunities**
- ❑ **Minimize Impacts & Obstacles**
- ❑ **Establish & Enhance Relationships**
- ❑ **Respect & Trust**

Management Systems



**11.0
Continuous
Improvement**

**8.0
Communication
& Public
Consultation**

What can happen...

- ❑ Corporate reputation
- ❑ Shareholder confidence
- ❑ Costly delays
- ❑ Regulatory reviews
- ❑ Project failure

CONCERN OVER CONTAMINATION



Mikael Kjellström, Calgary Herald

Lynnwood resident Arthur Boote, left, vents his anger over lead-contaminated soil in his neighbourhood on Andy Teal, Imperial Oil environmental manager, during an open house Tuesday called to answer questions about the contamination.

Homeowners seek answers on soil

LYNNE KOZIEY
CALGARY HERALD

A real estate agent selling homes in a southeast Calgary neighbourhood where high lead levels have been found in the soil said business has dropped dramatically since the findings were announced.

"I don't think there is a property value right now," said Ross Miller of CIR Realtors. "I don't believe they will have a value until people get some answers."

He said four appointments to view two homes in the Lynnwood area were cancelled on the weekend.

"This is very bad news for everyone. Because of the fear of the unknown about what's going to happen, nobody's going to look at a house here now."

Miller said two families selling houses in the area who have already bought homes elsewhere have been left in the lurch.

"Now I can't come through with a guarantee that their houses are going to sell. They're broken-hearted."

Miller joined about 200 residents at a community information session at the Millican-Ogden Community Hall on Tuesday who echoed his concerns that property values could drop.

An Imperial Oil refinery operated at Ogden Road and 50th Avenue S.E. from 1922 until the mid-1970s. Following its closure, the city reached an agreement with Devon Properties, a wholly-owned subsidiary of Imperial Oil, for homes to be built on the ridge above the refinery site, where its tank farm once stood.

SEE SOIL, PAGE A2

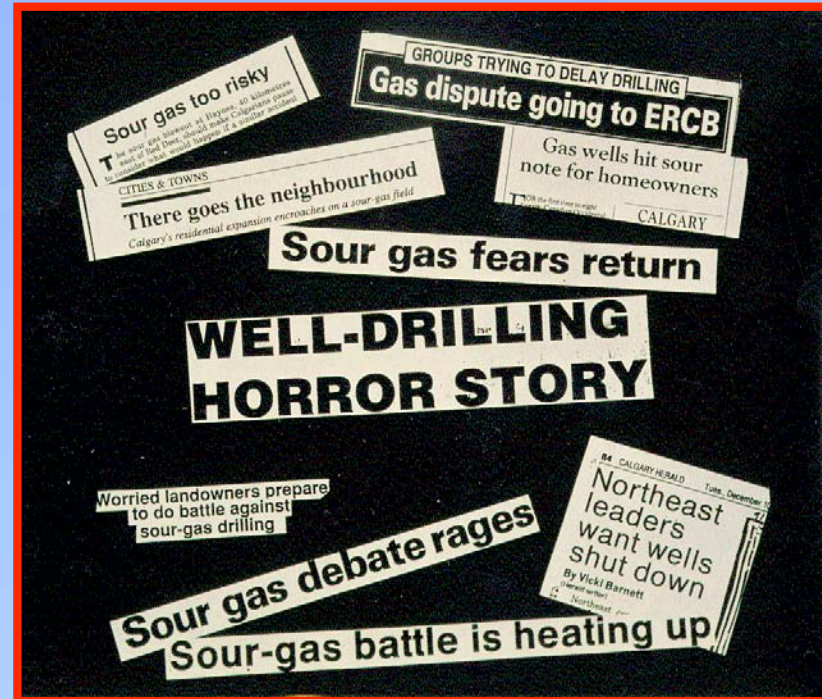
CALGARY HERALD May 23, 2001

Community Affairs - Public Consultation

With Consultation



Without Consultation



First steps...

- ❑ Investigation
- ❑ Regulators
- ❑ Key Stakeholders
- ❑ Resident
- ❑ Internal communication
- ❑ Fenceline

Wellsite Assessment & Investigation

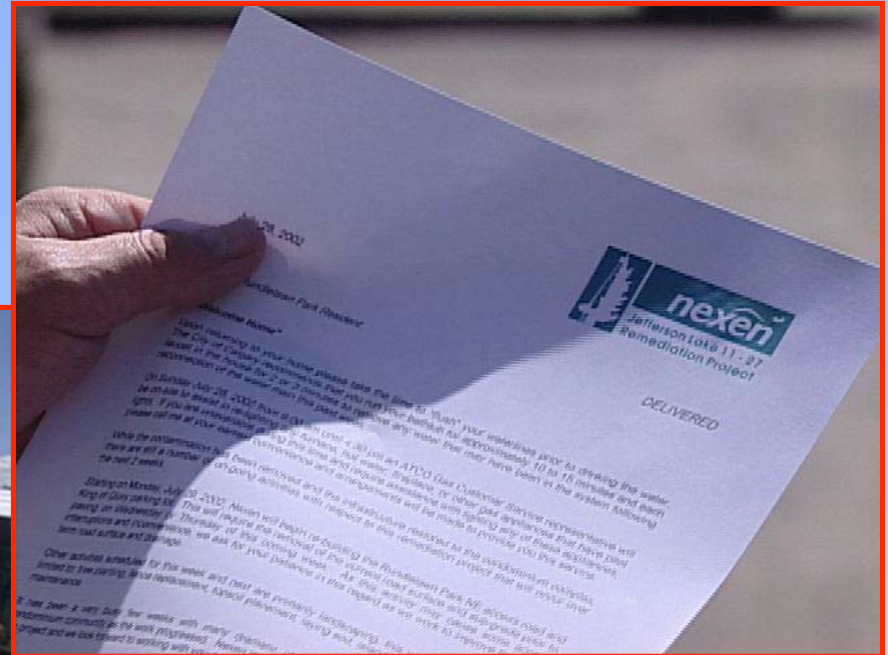
In late November 2000 during a routine check of petroleum wellsite abandonment certificates, **Alberta Environment** identified that a surface reclamation certificate for the **Jefferson Lake 11 of 27** wellsite was not on file. Nexen, Wascana Energy Inc. (Nexen / Wascana), partner and operator of the former well, was contacted for verification. An internal review of well abandonment files resulted in Nexen / Wascana being unable to confirm receipt of a

reclamation certificate or site surface conditions at the time the well abandonment licence was issued. An **immediate and exhaustive** search of historical information and photographs involving past and present employees, both provincial & municipal regulators, the regional health authority, area developers, and the community association has been unsuccessful in determining the reclamation status of the Jefferson Lake 11 of 27 wellsite.

Rundle Community



Community Interaction



Information to Empowerment...

...Building the better mousetrap

- Early Community Involvement**
- Work the Issues - Not the Lawyers**
- Communication - Personalize**
- Anticipate Downstream Issues**
- Follow-up**

Responsible Care[®] : A Total Commitment[®]

- ❑ **Responsible Care: Performance improvement effort established in 1985 by the Canadian Chemical Producers Association**
- ❑ **6 Codes of Practice**
- ❑ **Balzac Sour Gas Complex Round 1 verification in 2002.**



Responsible Care[®] : A Total Commitment[®]

OLD Ethic

- 4 Meet the Law
- 4 Keep Low Profile
- 4 Advise the Public
- 4 Defensive to Regulations
- 4 Downplay Public Concerns

Responsible Care Ethic

- 4 Exceed the Law - “do the right thing”
- 4 Be seen for doing the right thing
- 4 Consult proactively with the Public
- 4 Contribute Positively to Public Policy
- 4 Seek to Understand Public Concerns

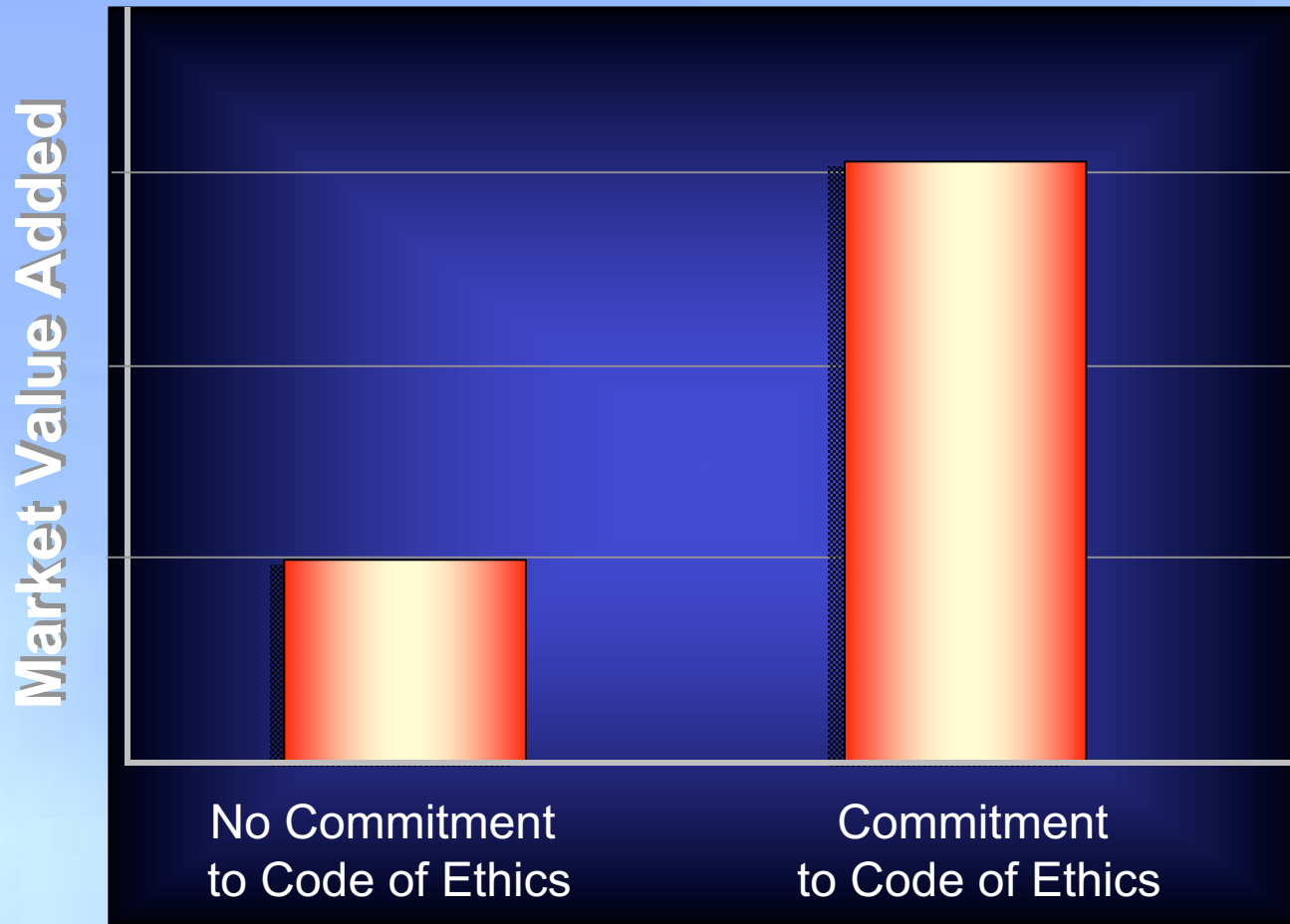


Bottom Line

**Economic
Success &
Responsible
Global
Citizenship**



Commitment = Performance



Source: Business and Society Review



nexen



**energy
to outperform**