



BP Exploration (Alaska) Chemical Coordinator

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HazMat Symposium

▶ Purpose

- ▶▶ To provide general information about the types and quantities of chemicals used by BP Exploration at Prudhoe Bay

▶ Process

- ▶▶ Brief explanation of CIC Chemical Coordinator responsibilities
- ▶▶ Brief explanation of the different chemicals
 - Types
 - Manufacturers
 - Quantities
 - Transportation

▶ Payoff

- ▶▶ Increased awareness of chemicals you may encounter



Disclaimer

- ▶ Chemical usage figures are only estimates
- ▶ Chemicals / types change over time
 - ▶▶ New products in continual development
- ▶ I am not.....
 - ▶▶a production chemist, corrosion engineer or scientist (rocket or otherwise)
 - ▶▶a designer of molecules
 - ▶▶a Nalco employee (as the eval. sheet implies)
- ▶ I am.....
 - ▶▶pretty familiar with chemicals used at Prudhoe Bay
 - Purchasing, inventory control, logistics for 15 years
 - ▶▶saving lots of money by switching to Gieco!!



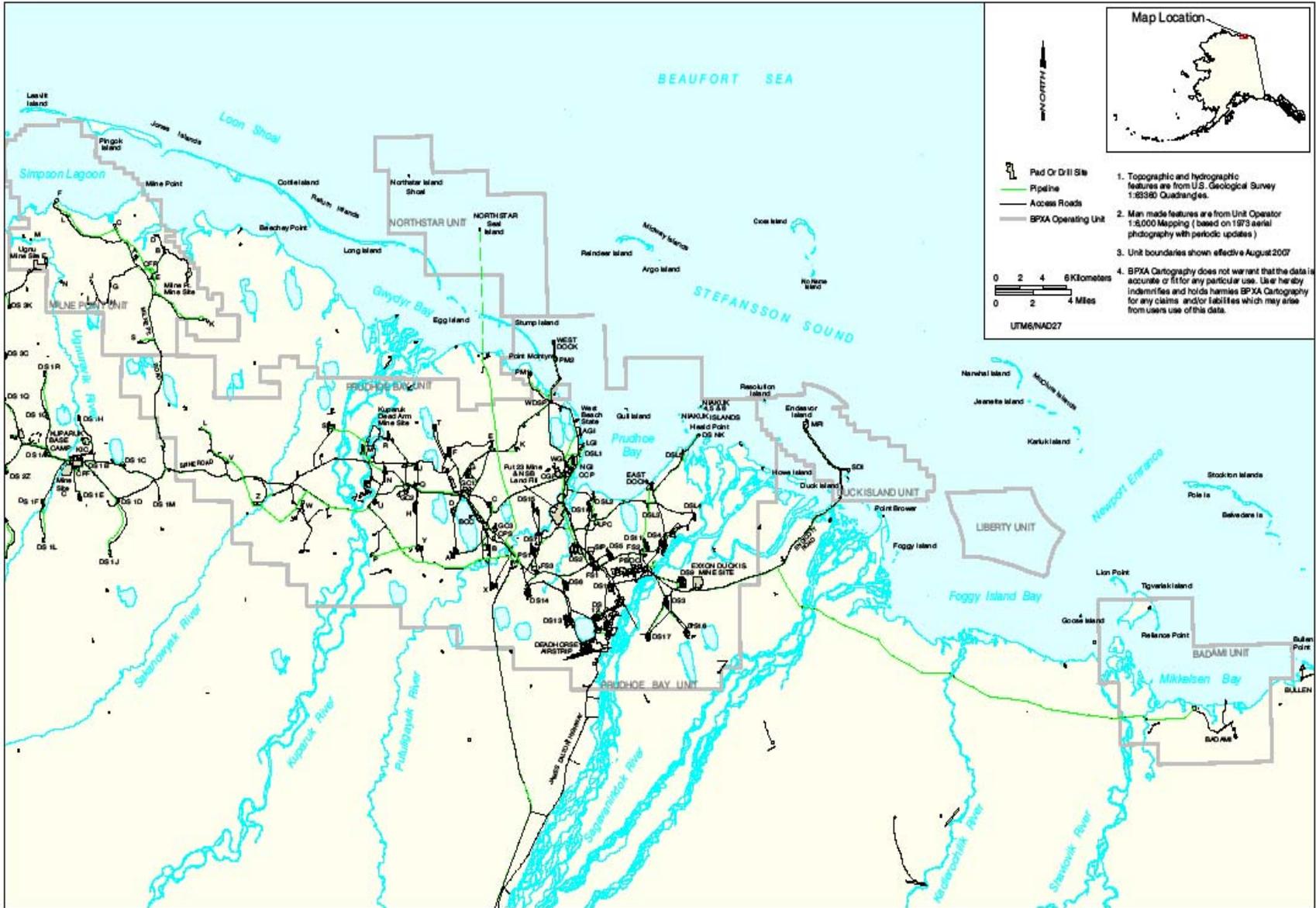
Chemical coordinator for BPX Alaska

- ▶ **Supporting all chemical needs**
 - ▶▶ Specialty chemicals for Corrosion, Inspection and Chemical group (CIC)
 - ▶▶ Commodity chemicals for Operations & Projects
- ▶ **All asset areas**
 - ▶▶ GPB (EOA and WOA), MPU, END, Nstar, Badami, Nikiski GTL facility
 - ▶▶ Roughly 2/3 of the Slope
- ▶ **Anchorage based @ BP HQ, Anchorage**
 - ▶▶ Jon Morton (former)
 - Member CIC
 - 2000 to 2007 – Nalco Energy Services, Anch.
 - 1996 to 2000 – APC, Prudhoe Bay
 - 1992 to 1996 – Veco, Prudhoe Bay
 - 907 564-5838 / jon.morton@bp.com
 - ▶▶ Mark Cabeen (current)
 - Member CIC group
 - 2007 to present – CDI Ameripex
 - 907 564-5176 / cabeenma@bp.com



Primary responsibilities

- ▶ **Monitor and maintain inventories of chemicals used by BP at Prudhoe Bay**
 - ▶▶ Any quantity
 - Primarily bulk (rail or truckloads)
 - Some tote, drum, pail
 - ▶▶ Forecast long range inventory requirements
 - ▶▶ Weekly review inventory levels
 - ▶▶ Generate orders to vendors
 - High volume chemicals ordered 90 days in advance
 - ▶▶ Coordinate shipping
 - ▶▶ Tracking
 - ▶▶ Receipt at Fairbanks
 - ▶▶ Coordinate some shipments Fbx to Prudhoe
 - CI / EB / Bio to Endicott
 - Others as needed



Map Location

North

Pad Or Drill Site
Pipeline
Access Roads
BPXA Operating Unit

1. Topographic and hydrographic features are from U.S. Geological Survey 1:8380 Quadrangles.
2. Man made features are from Unit Operator 1:5,000 Mapping (based on 1973 aerial photography with periodic updates)
3. Unit boundaries shown effective August 2007
4. BPXA Cartography does not warrant that the data is accurate or fit for any particular use. User hereby indemnifies and holds harmless BPXA Cartography for any claims and/or liabilities which may arise from users use of this data.

0 2 4 6 Kilometers
0 2 4 Miles

UTM6/NAD27



Quick quiz

What's produced at Greater Prudhoe Bay?

Hint: It's a trick question

Gas (7.9 billion SCF)

Water (1.079 million bbls)

Oil (296,000 bbls)

Greater Prudhoe Bay 4/9/08

BBL = barrels or 42 gallons

Water = Corrosion

What is one of BP's most important methods of managing corrosion?

Corrosion = metal loss from pipe wall

Chemicals



Specialty Chemicals and Vendors

▶ Corrosion inhibitors

- ▶▶ Provides protective layer between pipe wall and fluid
- ▶▶ Several means of application
 - Continuous injection at well head
 - Batch treatment (above ground)
 - Downhole
- ▶▶ Flammable liquid, Corrosive, NOS, UN 2924, 3,8,III
- ▶▶ Nalco Energy Services
 - 01VD109 (LDF 3ph) DVE4D017 (LDF 3ph test)
 - EC1081A (Produced Water) DVE4D018 (PW test)
 - 02VD066 (Endicott)
 - Railcar shipments from Sugarland, Tx
- ▶▶ Baker Performance Chemical
 - CRO-0408F
 - ISO shipments from Sand Springs, Tx
- ▶▶ Champion Technologies
 - RN402
 - ISO shipments from Odessa, Tx



Specialty Chemicals and Vendors

▶ Scale inhibitor

- ▶▶ Flammable liquid, NOS, UN 1993, 3, III
- ▶▶ Nalco Energy Services
EC6085A
 - Railcar shipments from Sugarland, Tx

▶ Biocide

- ▶▶ “Bug Killer”
- ▶▶ Corrosive liquid, Acidic, Organic, NOS, UN 3265, 8, II
- ▶▶ Nalco Energy Services
EC6112A (Endicott)
 - ISO shipments from Dow at Institute, West Va.
- ▶▶ Baker Performance Chemical
XC-150 (STP)
 - ISO shipments from Dow at Institute, West Va.



Commodity chemicals and Vendors

▶ Glycols

- ▶▶ Heat transfer medium
 - MEG – Low temp
 - TEG – High Temp
 - Also gas dehydration (water removal)
 - Univar-Anchorage & Brenntag-Fairbanks

▶ Schmoo-B-Gone

- ▶▶ Caustic cleaner – industrial strength Drano
- ▶▶ Corrosive liquid, flammable, NOS, UN 1920, 8, II
 - Brenntag-Fairbanks

▶ Xylene

- ▶▶ Cleaner / degreaser / diluent
- ▶▶ Xylenes, UN 1307, 3, III
 - Univar-Anchorage & Brenntag-Fairbanks

▶ All truckload shipments from Anchorage or Fairbanks



Commodity chemicals and Vendors

- ▶ **Silicone Defoamer**
 - ▶▶ Anti-foaming chemical
 - ▶▶ Flammable liquid, NOS (kerosene), UN 1993, 3, III
 - Univar-Anchorage
- ▶ **Ammonium bisulfite (ABS) oxygen scavenger**
 - ▶▶ Oxygen removal from seawater
 - ▶▶ Bisulfites, aqueous solutions, NOS, UN 2693, 8, III
 - Univar-Anchorage
- ▶ **Hydraulic fluid**
 - ▶▶ Hydraulic control panels
 - ▶▶ Combustible liquid, NOS, UN 1993, 3 III
 - Inlet Petroleum-Anchorage
- ▶ Other magic snake oils as needed
- ▶ All truckload /ISO shipments from lower 48 and Alaska



Commodity chemicals and Vendors

▶ Methanol

- ▶▶ Freeze protection for water lines
- ▶▶ Diluant for corrosion inhibitor
- ▶▶ Methanol, UN 1230, 3, II
- ▶▶ Mitsuibishi from Murex through Brenntag – Fairbanks
- ▶▶ Rail shipments from Port Rose, Texas



Local Blending

- ▶ **Most chemicals received in “final” form**
- ▶ **Some “blended” locally**
 - ▶ Typically high volume use
 - ▶ Primary blending facility at Prudhoe Bay
 - ▶ Additional blending at Fairbanks & Anchorage
- ▶ **Concentrate shipped from lower 48**
 - ▶ Combined with diluent
 - Methanol or methanol/water combination
 - Mixed per factory specification
- ▶ **Cost savings**
 - ▶ Less equipment needed (railcars)
 - ▶ Diluent available locally



Volume of rail / IMO shipments 2007 (est.)

Corrosion Inhibitor	Railcars	ISO's / TL*
01VD109	63	-
EC1081A	60	-
02VD066	4	-
Test chemicals	4	6
Emulsion Breaker		
EC2085A	4	-
DVE4Z026	4	-
RNB-60425	-	4
REB-01319	-	10
Scale Inhibitor		
EC-6085A	4	-
Biocide		
XC-150	-	10
EC6112A	-	2
Methanol	375	-
Total	<hr/> 518	<hr/> 32

*T/L = (Tanker) truckload



Volume of rail / IMO shipments 2007 (est.)

▶ Lower 48 to Fairbanks

▶▶ Railcars

- ~1-1/2 per day
 - Specialty chemicals ~1 every 3 to 4 days
 - Methanol ~1 every day

▶▶ ISO's ~1 every 10 days

▶ Barge sailings

▶▶ ARMS barge from Seattle – Every 7 days

▶▶ CNRR barge from Pr. Rupert – Every 10 days

▶ Fairbanks to Prudhoe

▶▶ Currently ~40 shipments per week

- ~20 specialty chemicals
- ~20 methanol

▶▶ 2009 ~100+ shipments per week

- Adds ULSD (8 to 10 shipments per day)

- Lots of stuff moving on the Dalton Highway (Haul Road) -



Safety Record

▶ **Excellent!!!!**

▶▶ Railcars – 1

- Leaking offloading valve on full car at Houston rail yard
- Transferred to empty car at same yard

▶▶ ISO's - minimal

- Every 2-3 years, road shoulder attacks
- Truck tips, ISO on side
- Container has always maintained integrity
 - Product transferred and sent north

▶▶ Minor spills at Prudhoe

- Primarily hose connections



Questions or comments?