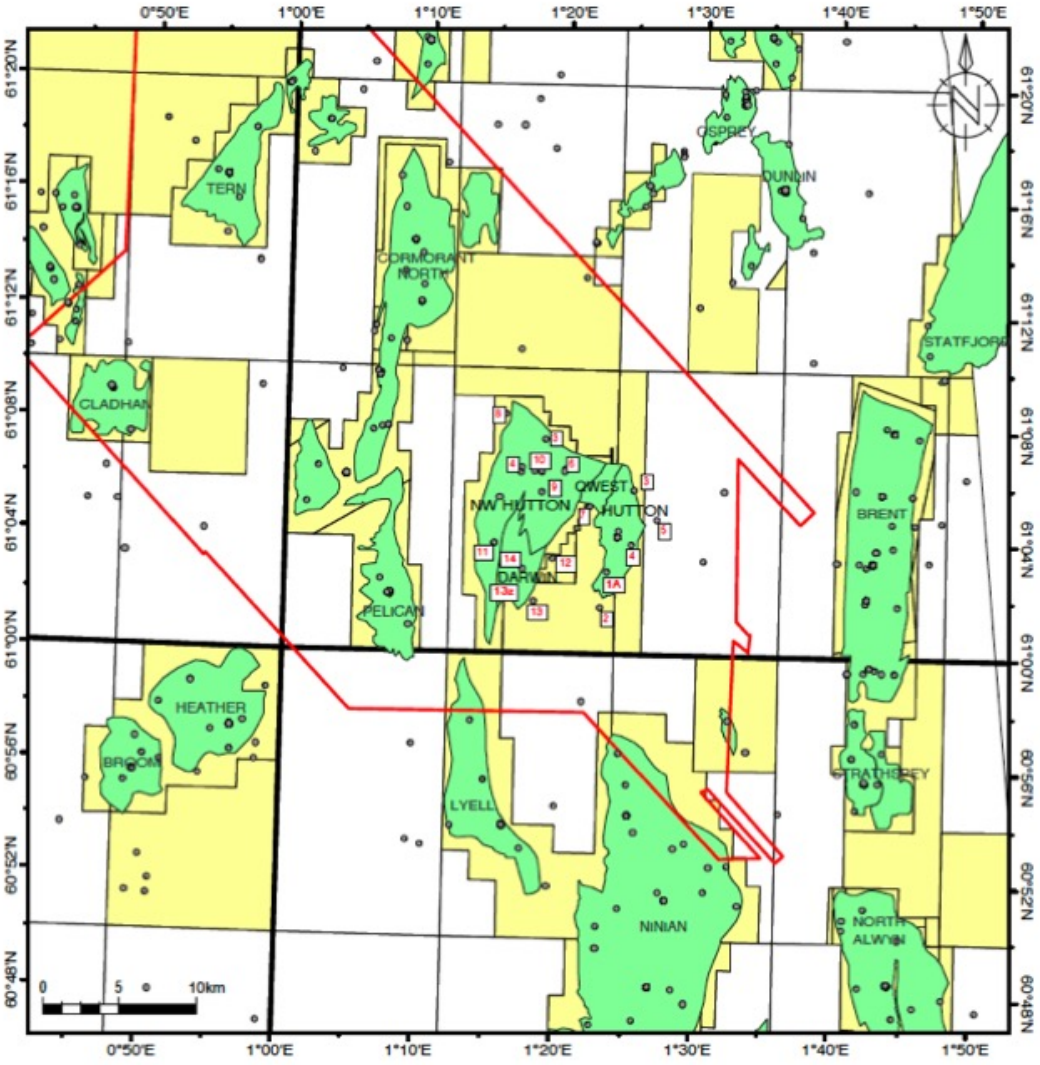
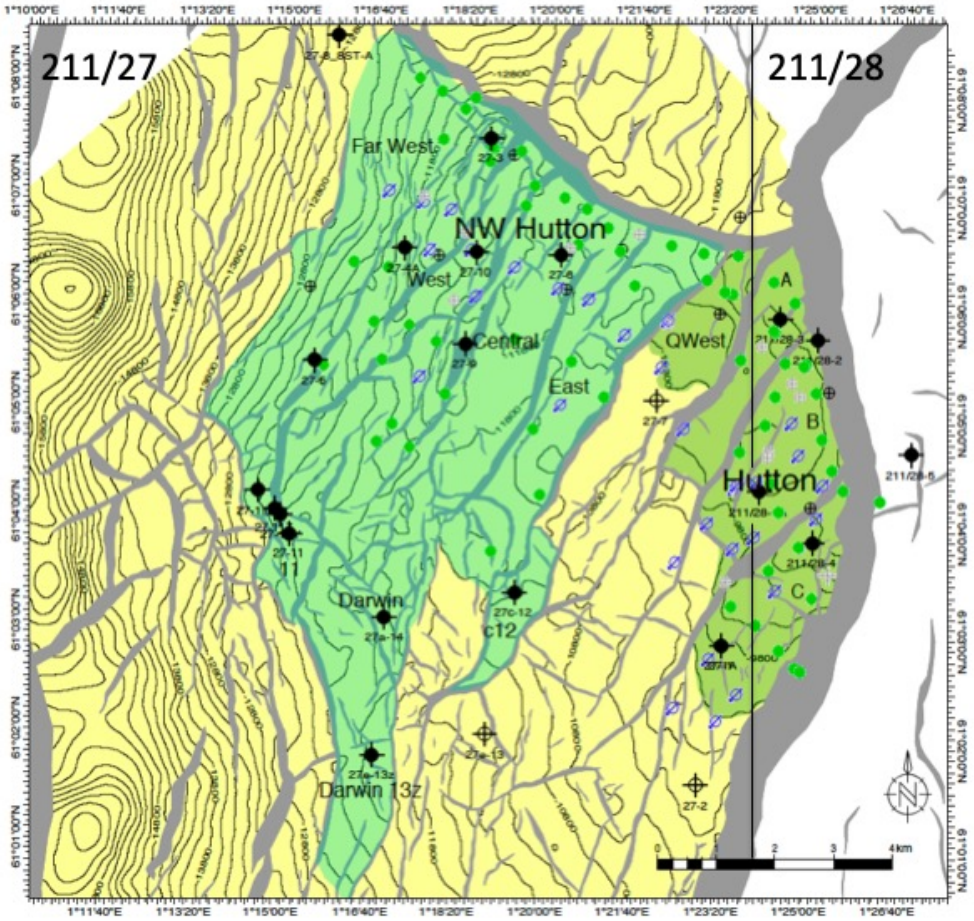

0°50'E
1°00'E
1°10'E
1°20'E
1°30'E
1°40'E
1°50'E
61°20'N
61°16'N
61°12'N
61°08'N
61°04'N
61°00'N
60°56'N
60°52'N
60°48'N
TERN
OSPREY
DUNLIN
CORMORANT NORTH
STATFJORD
CLADHAN
NW HUTTON
QWEST HUTTON
BRENT
DARWIN
PELICAN
HEATHER
BROOM
LYELL
STRATHSPEY
NINIAN
NORTH ALWYN
0
5
10km

Figure 1

Gamma Ray response	Age (base)	Formation Unit		Φ (%)	K (mD)	Interval Description	Interpreted Depositional Environment (after Flint *et al*, 1998)
0 100	Ma	*Conventional Brent Group names*	*Conoco Brent Group names*				
	165	Tarbert Formation	Upper Sand Unit	20 to 24	400	Upward fining from a coarse granular base, minor cross bedding and clay drapes at base	Lowstand complex overlain by transgressive unit
		Ness Formation *Upper member*	*Upper* Middle Shaley Unit	20 to 25	600 to 3000	Basal, erosive-based, coarse grained stacked fluvial channels, crevasse splay sandstones and flood plain mudstones.	Long-term, early high systems tract to the Massive Sand (Etive) sequence boundary
		Ness Formation *Mid Ness Shale*	*Mid* Middle Shaley Unit			Shaley base, minor fine grained sandstones with hummock cross stratification, field-wide stratigraphic marker	Condensed marine section with up to ten biozones, basal maximum flooding surface.
		Ness Formation	Non-Reservoir				
	168	Ness Formation *Lower member*	*Lower* Middle Shaley Unit	20 to 25	600 to 1800	Coarsening upwards facies associations, current ripples and parallel lamination common, marine trace fossils.	Transgressive systems tract to the Massive Sand (Etive) lowstand, with mouthbar parasequences.
		Etive Formation	Massive Sand	20 to 25	200 to 3000	Medium to coarse grained sandstones, commonly abruptly overlying Massive Mica/Sand (Rannoch), Upper Massive Sand contains low abundance, low diversity trace fossil assemblage, trough and planar cross-bedding, coaly debris.	Multilayer fluvial to estuarine channelised system with incised valley fills.
		Etive/ Rannoch Formation	Massive sand / Mica Sand	25	300 to 3000	Occasionally present as interbedded Massive Sand / Mica Sand unit in Hutton.	
	171	Rannoch Formation	Mica Sand	20	10 to 40	Shale at base overlain by hummocky cross stratified, micaceous sandstone and interbedded sandy heteroliths.	Highstand systems tract, lower to upper shoreface sandstones, multiple aggrading cycles.
	181	Broom Formation	Basal Sand	17 to 23	60 to 250	Coarse grained sandstones with mud draped cross beds. Some terrestrial coal debris. Marine bioturbation at base and top.	Lowstand to transgressive systems tract tidal estuarine complex.
		Dunlin Group					Marine mudstones

Figure 2

Figure 3


211/27
211/28
Far West
NW Hutton
West
Central
East
QWest
A
B
C
Hutton
Darwin
c12
11
Darwin 13z
0
2
3
4km

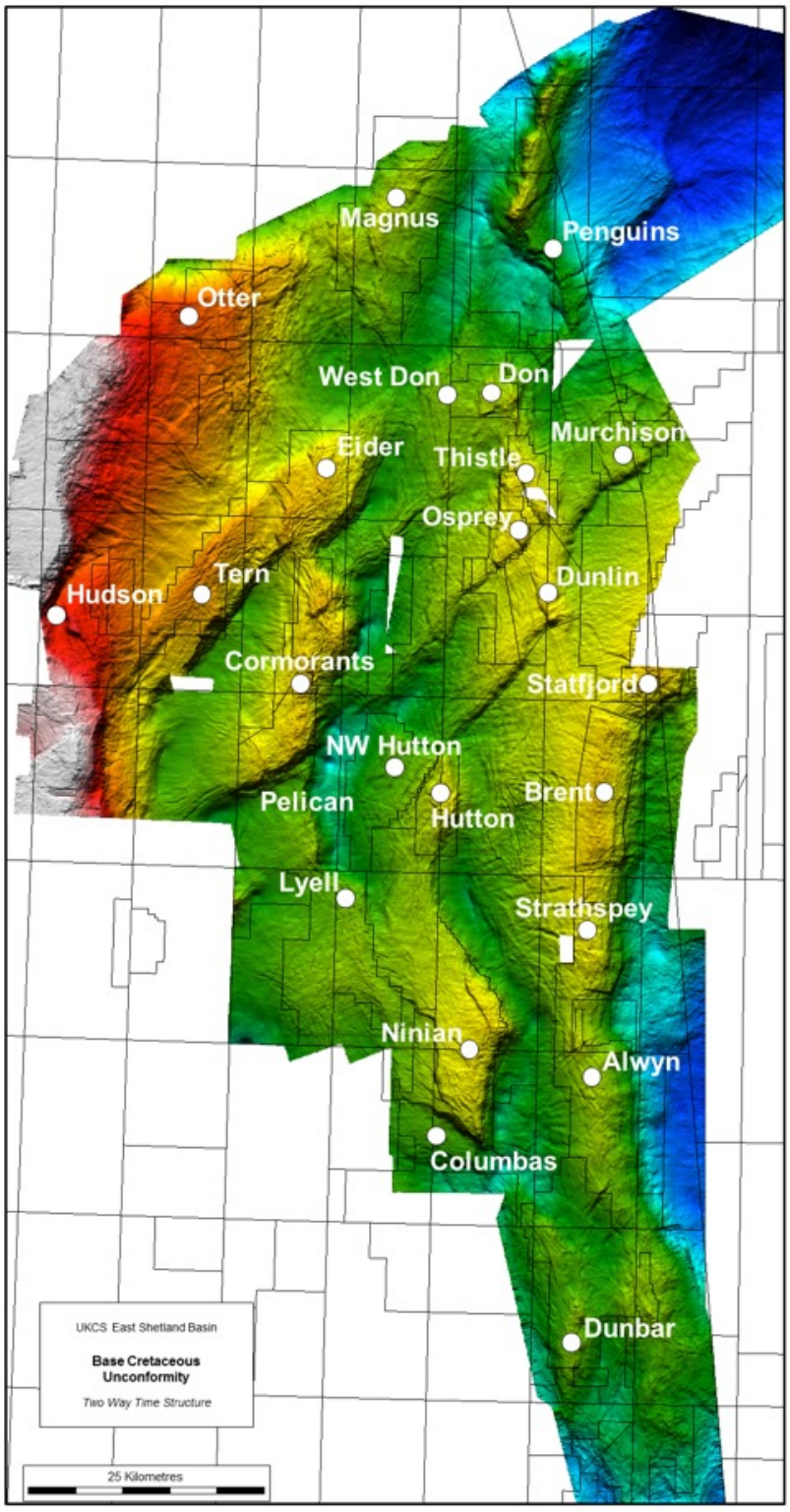

Magnus
Penguins
Otter
West Don
Don
Murchison
Eider
Thistle
Osprey
Tern
Hudson
Dunlin
Cormorants
Statfjord
NW Hutton
Pelican
Hutton
Brent
Lyell
Strathspey
Ninian
Alwyn
Columbas
Dunbar
UKCS East Shetland Basin
Base Cretaceous Unconformity
Two Way Time Structure
25 Kilometres

Figure 4

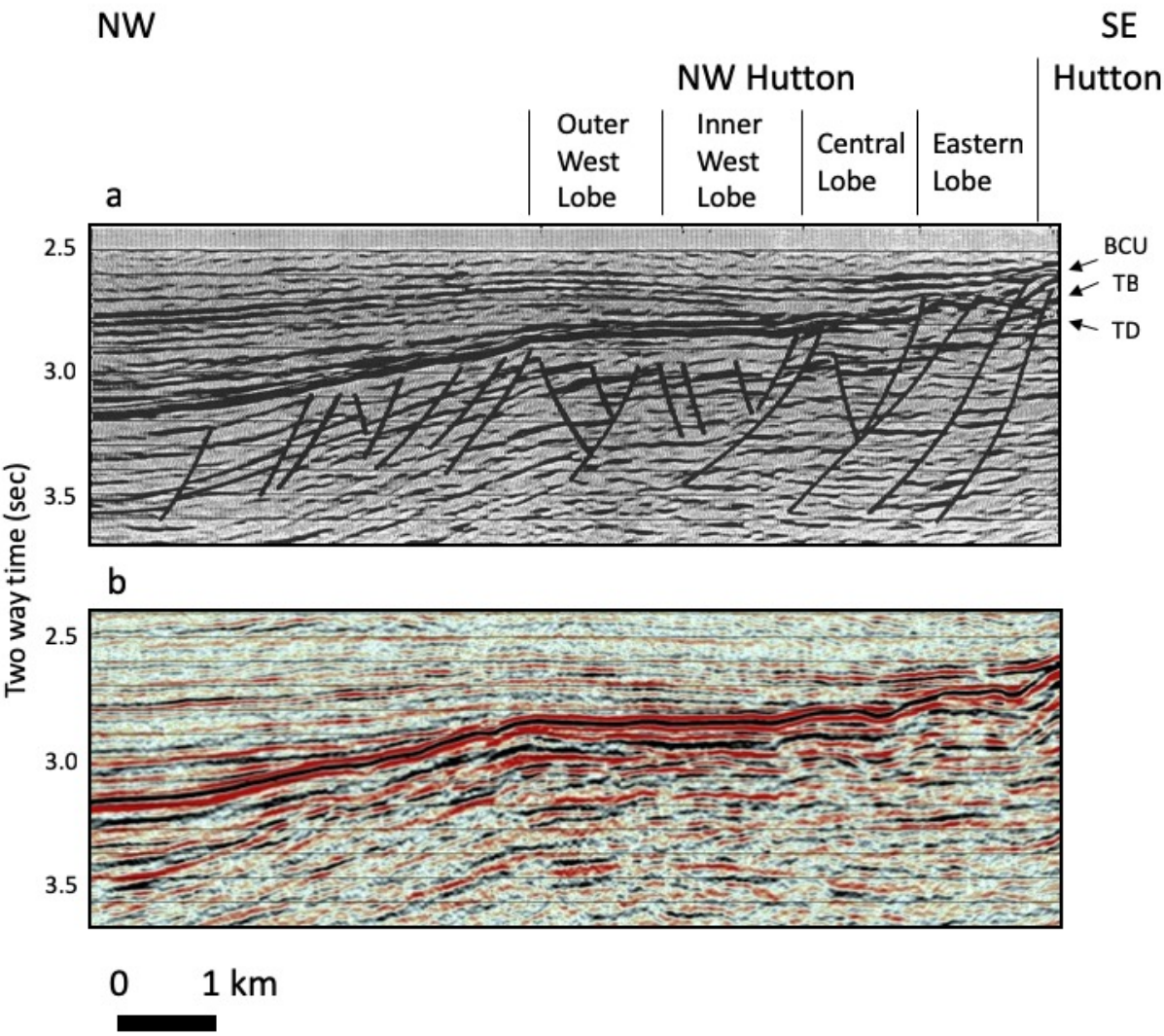

NW
SE
NW Hutton
Hutton
Outer West Lobe
Inner West Lobe
Central Lobe
Eastern Lobe
a
BCU
TB
TD
2.5
3.0
3.5
Two way time (sec)
b
2.5
3.0
3.5
0
1 km

Figure 5

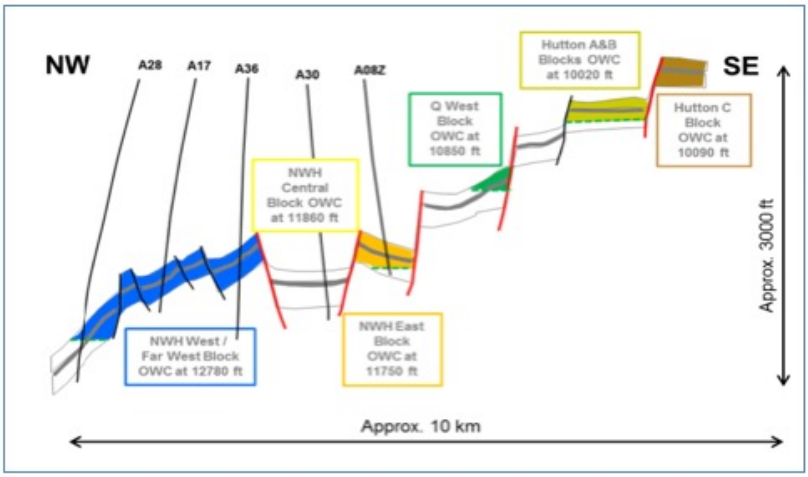

NW
A28
A17
A36
A30
A08Z
SE
Hutton A&B Blocks OWC at 10020 ft
Q West Block OWC at 10850 ft
Hutton C Block OWC at 10090 ft
NWH Central Block OWC at 11860 ft
NWH West / Far West Block OWC at 12780 ft
NWH East Block OWC at 11750 ft
Approx. 3000 ft
Approx. 10 km

Figure 6

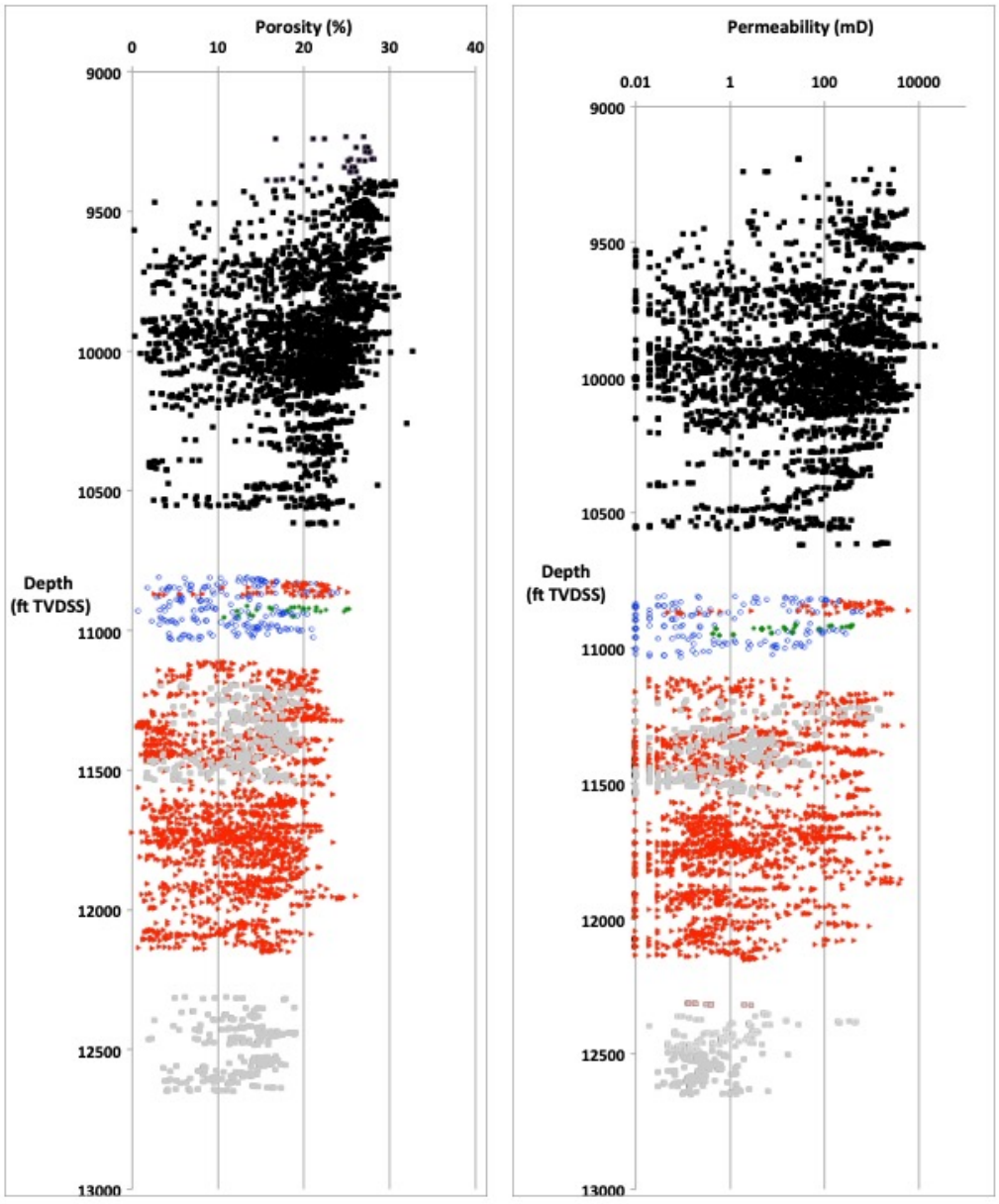
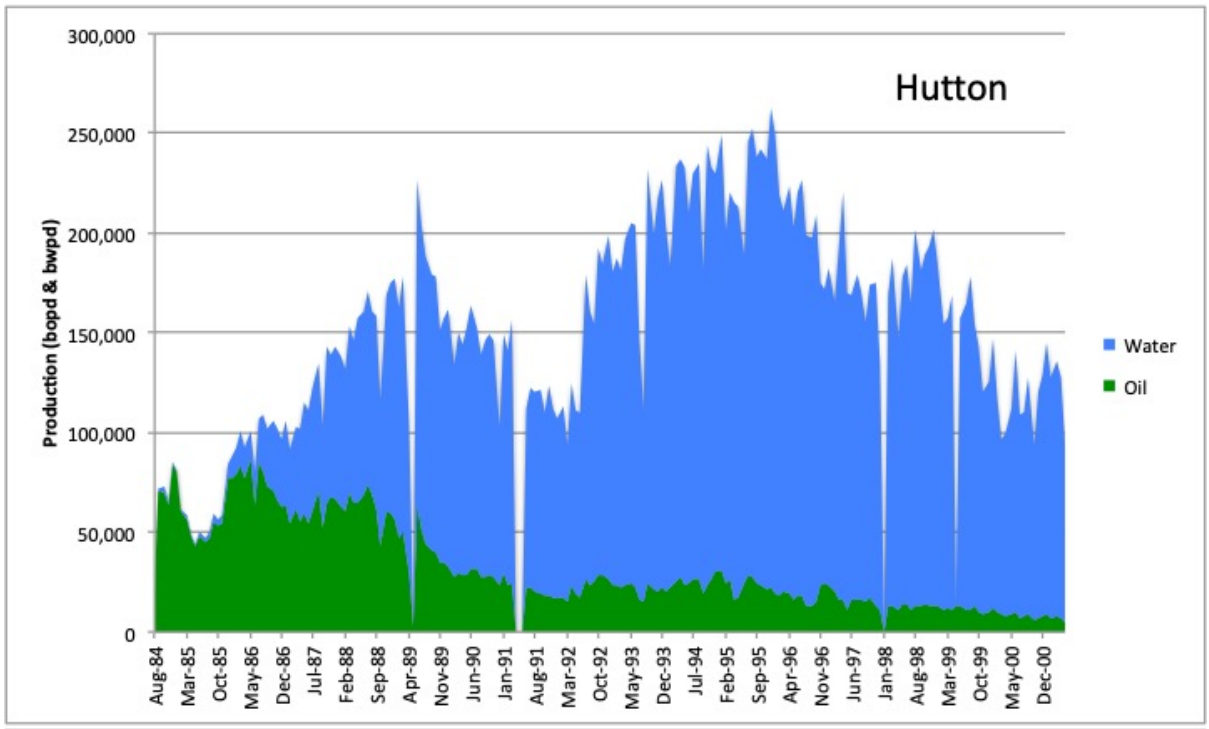

Porosity (%)
0
10
20
30
40
Permeability (mD)
0.01
1
100
10000
Depth
(ft TVDSS)
9000
9500
10000
10500
11000
11500
12000
12500
13000

Figure 7

Figure 8


Hutton
Production (bopd & bwpd)
300,000
250,000
200,000
150,000
100,000
50,000
0
Aug-84
Mar-85
Oct-85
May-86
Dec-86
Jul-87
Feb-88
Sep-88
Apr-89
Nov-89
Jun-90
Jan-91
Aug-91
Mar-92
Oct-92
May-93
Dec-93
Jul-94
Feb-95
Sep-95
Apr-96
Nov-96
Jun-97
Jan-98
Aug-98
Mar-99
Oct-99
May-00
Dec-00
Water
Oil

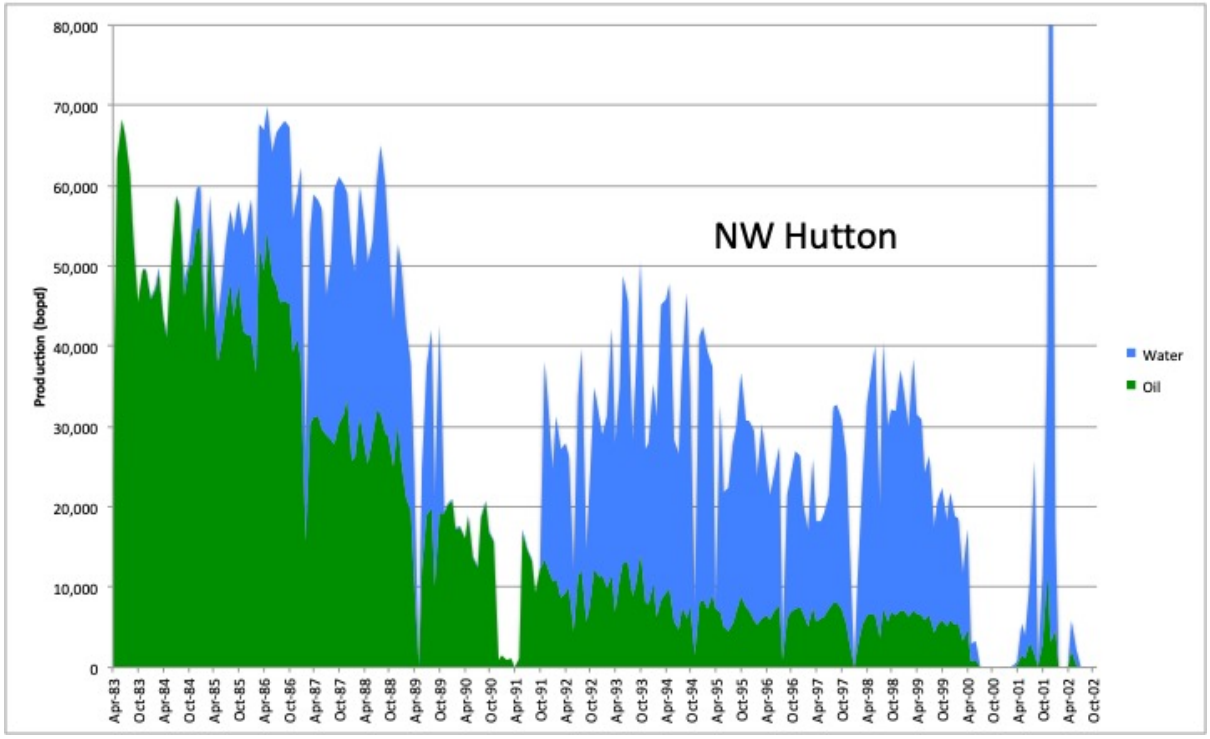

NW Hutton
Production (bopd)
80,000
70,000
60,000
50,000
40,000
30,000
20,000
10,000
0
Water
Oil

Figure 9

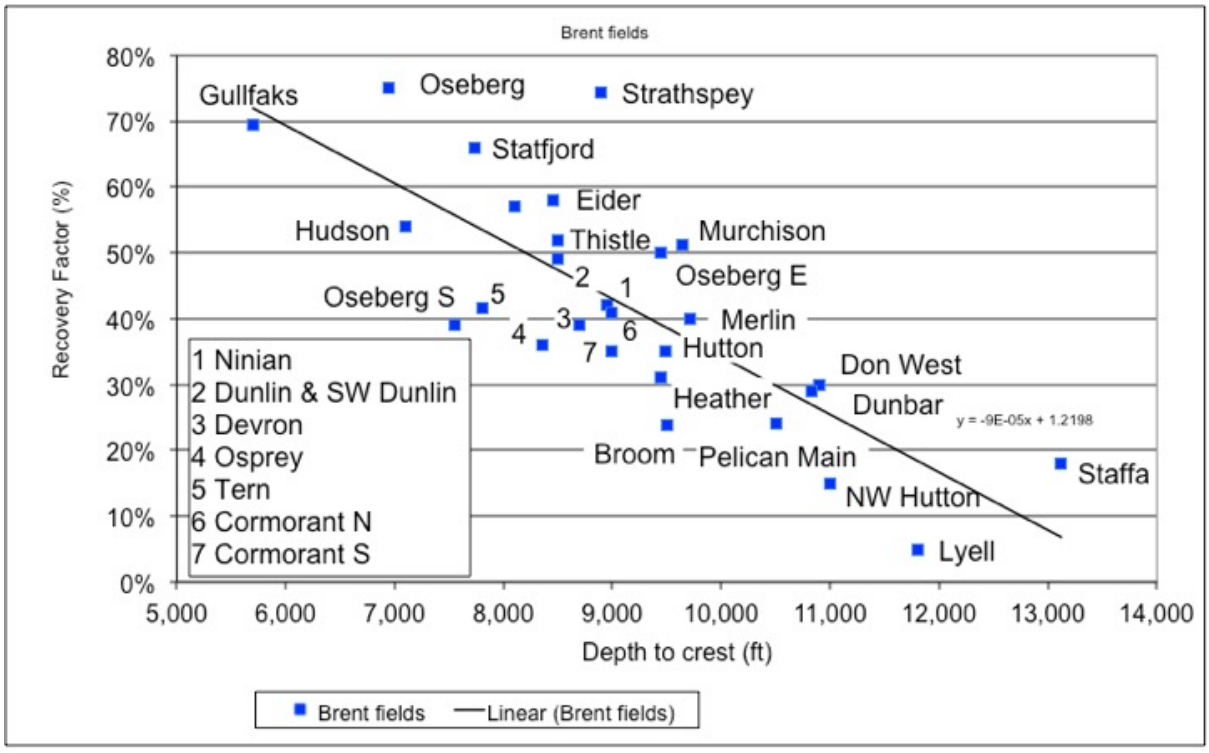
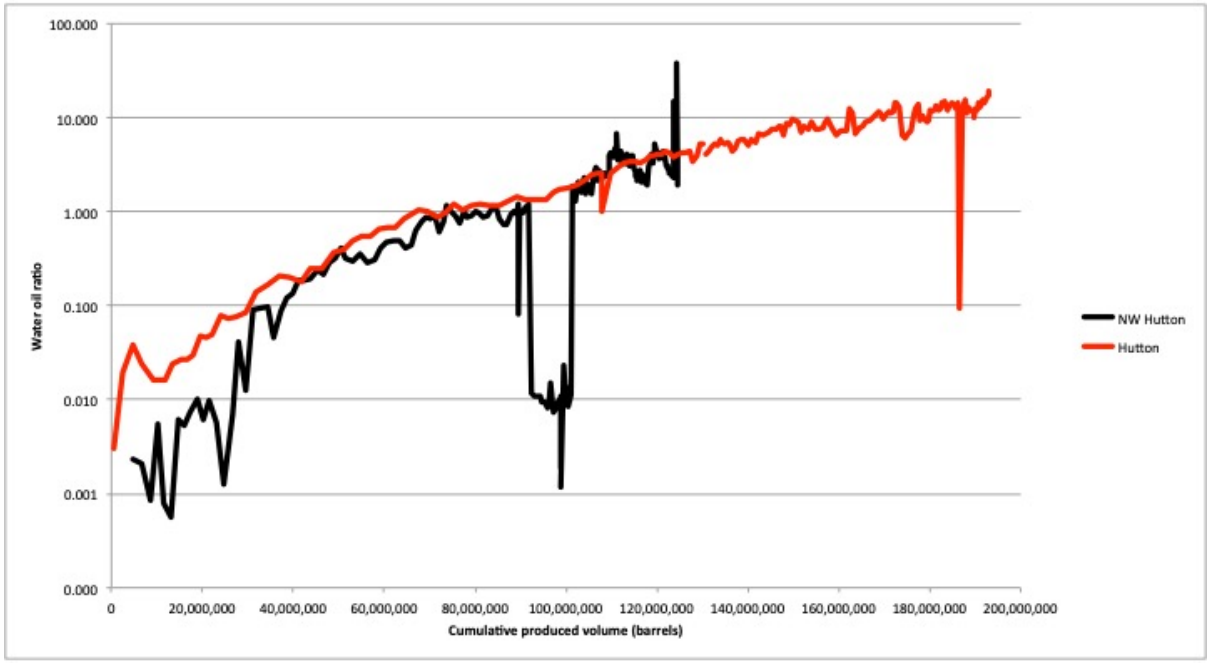

Brent fields
Recovery Factor (%)
80%
70%
60%
50%
40%
30%
20%
10%
0%
5,000
6,000
7,000
8,000
9,000
10,000
11,000
12,000
13,000
14,000
Depth to crest (ft)
Gullfaks
Oseberg
Strathspey
Statfjord
Eider
Hudson
Thistle
Murchison
Oseberg E
Oseberg S
Merlin
Hutton
Don West
Heather
Dunbar
y = -9E-05x + 1.2198
Broom
Pelican Main
Staffa
NW Hutton
Lyell
1 Ninian
2 Dunlin & SW Dunlin
3 Devron
4 Osprey
5 Tern
6 Cormorant N
7 Cormorant S
Brent fields
Linear (Brent fields)

Figure 10


100.000
10.000
1.000
0.100
0.010
0.001
0.000
Water oil ratio
0
20,000,000
40,000,000
60,000,000
80,000,000
100,000,000
120,000,000
140,000,000
160,000,000
180,000,000
200,000,000
Cumulative produced volume (barrels)
NW Hutton
Hutton