PETRO CANADA INCORPORATED

PCI WESTCOAST K'AHBAMI H-56

Well History Report

1985

Prepared by: R. Moscarello
1985-06-03

GEOLOGICAL WELLSITE REPORT

FOR

PCI WESTCOAST K'AHBAMI H-56

67°45'27.8851"N 127°24'49.4098"W

D. A. # 1227

Prepared for

PETRO-CANADA INCORPORATED

By

T. A. Vader

PRO GEO CONSULTANTS

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April 9, 1985

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WELL SUMMARY

WELL NAME:	PCI Westcoast K'Ahbami H-56	
CO-ORDINATES:	N.Lat.67°45'27.8851"; W.Long.127°24'49.4098"	
LOCATION:	Unit H, Section 56, Grid Area 67°50', 127°15'	
ELEVATIONS:	Ground: KB:	298.65 m 304.87 m
OPERATOR:	Petro-Canada Incorporated	
DRILLING CONTRACTOR:	Atco/Equatak #76	
WELLSITE SUPERVISION:	Toolpusher: Engineer: Geologist:	D.Kennedy Y. Hope/P. Walsh T. Vader
WELL SPUDDED:	1985-03-05 at 10.00 hrs.	
DRILLING COMPLETED:	1985-04-05 at 07.00 hrs.	
BIT SIZES:	Surface: Downhole:	311 mm 216 mm
CASING SIZES:	Surface: Production:	245 mm
TOTAL DEPTH:	Driller: Logger:	1605 m 1605 m
BOTTOM HOLE FORMATION:	Proterozoic	
CORES CUT:	Nil	
LOGS RUN:	Run #1, 717.5 to sfce. DISFL-GR, BHCS, FDC-GR Run #2, 1605 to 717.5, DISFL-GR- BHCS, FDC-GR Velocity survey.	
DRILL STEM TESTS RUN:	Nil	
RIG RELEASED:	1985-04-08 at 08.00 hrs.	
WELL STATUS:	D&A	

DAILY DRILLING SUMMARY

1985-03-05

- Rig to spud.
- Spud at 10.00 hrs.
- Spud and drill pilot hole to 76 m with Bit #1A 311 mm (HW X3A)

1985-03-06

- Drill 311 mm pilot hole to 120 m
- POH
- RIH with Bit #2A and 445 mm hole opener (STC OWVJ)
- Open hole to 120 m
- Run wiper trip
- Ream to bottom

1985-03-07

- Ream to bottom
- Circulate and condition hole
- Ran 340 mm conductor casing
- Cement conductor casing, plug down at 17.47 hours
- Ran top plug in annulus

1985-03-08

- WOC
- Head up diverter system

1985-03-09

- Head up diverter system
- Tag cement plug
- Pressure test hydril
- Drill out cement
- Drill ahead to 141 m with Bit #3B 311 mm (STC FDT)
- POH for jets
- RIH and displaced hole for air drilling
- Drill ahead with foam to 154 m with Bit #4B 311 mm (HW J-22)

1985-03-10

- Drill to 270 m

1985-03-11

- Drill 311 mm hole to 356 m
- Work on rig motor
- Drill ahead to 378 m.

1985-03-12

- Drill to 397 m
- Repair air drilling compressor
- Drill to 444 m
- Start to pull out of hole for bit (hole would not bleed off pressure)
- Bleed off hole.

1985-03-13

- Bleed off hole pressure
- POH and RIH with Bit #5B (HWJ-33)
- Drill 311 mm hole with foam to 510 m

1985-03-14

- Drill to 623 m

1985-03-15

- Drill with air to 713 m

1985-03-16

- Drill with air to 720 m
- Bleed off pressure
- POH to log
- Logging with Schlumberger

1985-03-17

- Logging with Schlumberger
- Run wiper trip with Bit #6B HW X3A
- Condition hole, POH to run casing
- Run 245 mm surface casing
- Cement casing

1985-03-18

- Cement casing
- WOC
- Head up BOP stack

1985-03-19

- Head up BOP stack and pressure test BOP stack
- Drill out stage tool with Bit #7C HWJD7 (216 mm)

1985-03-20

- Drill out cement
- Drill ahead to 725 m
- Circulate and clean hole

- Run Pressure Integrity Test
- POH to run Cement Bond log
  (while pulling out dropped Grant rotating head bushings in hole)
- Fish for bushings
- Wait on fishing tools and fisherman
- Fish for bushings

1985-03-21

- Fish for bushings (recovered)
- Run Cement Bond log
- Run Gyro survey
- RIH with Bit #8C (HW J-33) 216 mm
- Drill 216 mm hole to 739 m

1985-03-22

- Drill to 847 mm

1985-03-23

- Drill 216 mm hole to 856 m
- POH for bit
- RIH with Bit #9C (HW JD8) and junk sub
- Drill to 892 m
- POH for bit

1985-03-24

- RIH with Bit #10C (HW J-33)
- Drill 216 mm hole to 997 m

1985-03-25

- Drill 216 mm hole to 1031 m
- POH for bit
- RIH with Bit #11C and junk sub (HW JD8)
- Drill to 1064 m
- POH for bit.

1985-03-26

- POH for bit
- RIH with Bit #12C HW J-55
- Drill to 1110 m

1985-03-27

- Drill to 1152 m
- POH for bit
- RIH with Bit #13C HW J-33
- Drill to 1164 m

1985-03-28

- Drill to 1204 m
- POH for bit and inspect drill collars
- RIH with Bit #14C HW J-55

1985-03-29

- RIH with Bit #14C HW J-55
- Drill to 1260 m
- POH for bit

1985-03-30

- RIH with Bit #15C HWJ-33
- Drill to 1374 m
- Circulate sample

1985-03-31

- Drill to 1401 m
- Circulate sample
- Drill to 1432 m

1985-04-01

- Drill to 1478 m
- POH for bit

1985-04-02

- RIH with Bit #16C HW J-33
- Drill to 1515 m

1985-04-03

- Drill to 1525 m
- POH for bit
- RIH with Bit #17C HW J-55R
- Drill to 1543 m

1985-04-04

- Drill to 1590 m

1985-04-05

- Drill to 1605 m
- Circulate sample, Run 10 stand wiper trip
- Circulate and condition hole
- POH to log
- Logging with Schlumberger

1985-04-06

- Logging with Schlumberger
- Run Velocity Survey
- Rig out loggers
- RIH and circulate and condition hole
- Run Plug #1
- Run Plug #2

1985-04-07

- Run Plug #3
- WOC
- Cut casing off
- Tear out BOP's

1985-04-08

- Tear out BOP's
- Rig release at 08.00 hours.

CASING SUMMARY

Conductor Casing

Ran 9 jts. 340 mm 101 kg/m K-55 BT&C conductor casing. Landed at 117.0 m KB. Cemented with 32.4 tonnes of Arctic Set cement. Plug down at 17.47 hrs. 1985-03-07. No cement returns to surface. Ran top plug in annulus from 28 m to 7 m KB through 73 mm tubing with 1.4 tonnes Arctic Set cement. Plug down at 21.30 hrs. 1985-03-07.

Surface Casing

Ran 59 jts. 245 mm 60 kg/m L-80 LT&C. Landed at 717.83 m. External casing packer at 104.42 m KB, stage tool at 90.41 m KB. Cemented by Dowell; 1st stage, pumped 43 tonnes Class G cement, with .5% D-65 and .1% D-13; 2nd stage, pumped 7 tonnes of Oilwell Class G, with .5% D-65 and .1% D-13. Plug down at 03.15 hrs. 1985-03-18. .2 cubic meters returns to surface.

ABANDONMENT PROGRAM

Plug #1 — 1485-1605 m
Cemented with 7 tonnes Class G cement, neat
Plug down at 09.14 hrs. 1985-04-06

Plug #2 — 692-742 m
Cemented with 4.5 tonnes Class G cement and 2% $CaCl_2$.
Plug down at 22.14 hrs. 1985-04-06

Plug #3 — 31m to surface
Cemented with 1.8 tonnes Class G cement, neat
Plug down at 06.35 hrs. 1985-04-07

GEOLOGICAL SUMMARY

PCI Westcoast K'Ahbami H-56 was drilled as an exploration well at 67° 45' 27.8851" north latitude and 127° 24' 49.4098" west longitude, in the Northern Interior Plains region of the Northwest Territories. The well was drilled on a seismic defined structural high with updip fault closure of Cambrian age sandstones. The primary zone of interest in the well was the Mount Clarke formation, with sands in the Mount Cap formation being of secondary interest. The third possible zone of interest was possible porous sands in the Proterozoic.

The well was spudded in glacial till and permanently frozen mud. At about 87 meters a thin soft shale was encountered and was believed to be of Cretaceous age. At 93 meters the Hume formation was penetrated. The Hume consisted of a light to medium grey/brown slightly dolomitic limestone. Crinoids, ostracods and shell fragments were observed in the upper portion of the Hume. The lower portion of the Hume became medium to dark brown in colour and was slightly bitumen engrained.

The Bear Rock formation was penetrated while drilling with an air/stable foam mixture. The lithology of the Bear Rock in this well did not differ greatly from that of the Hume. Consequently, the top of the Bear Rock was picked at the first porous zone in the well. At 196 meters, a fresh water flow of about 500 barrels per hour was encountered. This porous zone was called the Bear Rock top. The formation consisted mainly of limestone with abundant vug and fracture porosity. The lime becomes slightly dolomitic near the base and becomes interbedded with dolomite. Sample quality was poor through the lower part of the Bear Rock due to the extensive fracture and solution channel porosity, causing sporadic returns to surface.

The Ronning Group consisted of a very thick (around 900 m) section of dolomite. Porosity was very good in the upper portion due to solution channels and fractures. The lower part of Ronning became tighter and slightly argillaceous. No hydrocarbon shows were encountered in the Ronning Group. Minor pockets of metasomatic chert were encountered throughout most of the Ronning.

The Saline River formation consists of interbedded shales, dolomites and very minor anhydrite. The shales of the Saline River range in colour from bright red to deep green and are easily reconizable.

The Saline River salt member in this well was only approximately 80 meters thick and consisted purely of halite.

Immediately below the salt, the Mount Cap formation was encountered. The Mount Cap consisted of mainly thin beds of dolomite with minor bands of shale and rare bands of anhydrite near the top. No sandstone, siltstones or porous dolomites were observed in the Mount Cap formation. No hydrocarbon shows were observed in this formation.

The Mount Clarke formation showed at 1490 meters as a fine to coarse grained sandstone with a commonly silty matrix. The sand was very well cemented with silica and minor dolomite. Common quartz overgrowths were observed in the sands. Porosity was poor throughout the sand due to the extensive cement. No hydrocarbon shows were observed in the Mount Clarke. Very slight traces of dead oil staining were observed in thin bands of the sand.

The Proterozoic in this well shows as a hard tight dolomite. The dolomite has some siliceous cement and minor chert pockets which make it very hard in bands. No porosity or hydrocarbon shows were observed in the Proterozoic in this well.

The well was drilled to a final total depth of 1605 m, one hundred meters into the Proterozoic dolomite.

The well was then logged and subsequently abandoned.

FORMATION TOPS

Formation	Sample		Log	
	Depth (m)	Subsea	Depth (m)	Subsea
Cretaceous	87	+217.87		
Hume Formation	93	+211.87		
Bear Rock	196	+108.87	168	+136.87
Ronning Group	335	-30.13	334	-29.13
Saline River	1217	-912.13	1224	-919.13
Salt Member	1282.6	-977.73	1276	-971/13
Mount Cap	1360	-1055.13	1360	-1055.13
Mount Clarke	1490	-1185.13	1490	-1185.13
Proterozoic	1503	-1198.13	1503	-1198.13
Total Depth	1605	-1300.87	1605	-1300.87

SAMPLE DESCRIPTIONS

Depth (m)	Description
15-87	Glacial till; mixtures of sands, silts, gravels and boulders of pre-existing rocks, commonly with a clayey matrix
CRETACEOUS? +217.87	
87-93	Shale; light to medium grey-brown, sub fissile to blocky, micromicaceous, soft, slightly calcareous, common shell fragments
HUME +211.87	
93-104	Limestone; light to medium grey/brown, slightly dolomitic in part, micritic, micritic detrital, argillaceous to occasionally very argillaceous, common shell fragments, trace of crinoids, trace of ostracods, tight, possibly reworked at surface.
104-114	Limestone; light to medium grey/brown, slightly dolomitic, micritic, slightly argillaceous, tight, occasional shell fragments, trace crinoids
114-120	Limestone; light to dark brown, dolomitic, micritic, micritic-pelletoidal, mottled in part, slightly argillaceous, slightly bitumen engrained in part, tight, trace of crinoids, ostracods and pelecypods, (possible fractured zones reaching to paleo-surface)
120-135	Limestone; dolomitic, light to medium grey/brown, micritic, calcite cement, dolomite cement, argillaceous in part, tight with minor bands and pockets of Dolomite; light brown/orange, microcrystalline to very fine crystalline, dolomite cement, clean, trace of pinpoint porosity.
135-149	Limestone; dolomitic, light to dark grey/brown, micritic to occasionally very fine granular, argillaceous in part, calcite cement, trace of dolomite cement, tight, occasionally bitumen engrained, occasional shale partings.
149-163	Limestone; light to medium grey/brown, dolomitic in part, micritic to occasionally very fine granular, argillaceous in part, calcite cement, minor dolomite cement, tight trace bitumen engrained, trace of shale partings
163-176	Limestone; medium to dark brown, slightly dolomitic in part, micritic to occasionally fine crystalline, slightly argillaceous in part, calcite cement, trace of dolomite cement, tight, trace bitumen engrained in part
176-181	Limestone; medium to dark brown, slightly dolomitic in part, micritic to occasionally very fine granular, slightly argillaceous in part, calcite cement, trace of dolomite cement, tight, trace bitumen engrained, trace shale partings.
181-185	Limestone; medium brown, micritic, calcite cement, slightly argillaceous, tight, trace bitumen engrained

Depth (m)	Description
185-196	Limestone; medium to dark brown, micritic to occasionally very fine crystalline, calcite cement, slightly argillaceous, tight, trace shale partings.
BEAR ROCK? +108.87 196-219	Limestone; light to medium brown, occasionally dark brown, micritic to very fine crystalline, calcite cement, slightly argillaceous, tight to trace fracture porosity, trace of bituminous stylolites, common light grey/green shale partings, (hole started producing fresh water at this depth at a rate of 500 barrels per hour while drilling with stable foam).
219-230	Limestone; light to medium brown, occasionally dark brown, dolomitic in part, micritic to very fine crystalline, calcite cement, trace of dolomite cement, tight to trace of intercrystalline porosity, trace of stylolites, trace of shale partings, trace of dolomite.
230-242	Limestone; light to medium brown, micritic, occasionally very fine crystalline, calcite ccement, tight, trace of intercrystalline porosity, trace of light grey/green shale partings.
242-253	Limestone; dolomitic in part, cream to light brown, micritic to very fine crystalline, calcite cement, trace of dolomite cement, clean, tight to trace of intercrystalline porosity, abundant light to medium grey shale partings or bands.
253-262	Limestone; tan, slightly dolomitic, micritic to occasionally very fine crystalline, calcite cement, trace of dolomite cement, clean, tight to trace of intercrystalline and vuggy porosity, trace of light grey shale partings.
262-266	Limestone; tan, slightly dolomitic in part, micritic to occasionally very fine crystalline calcite cement, trace of dolomite cement, clean, tight to poor intercrystalline and vuggy porosity, trace of shale partings
266-278	Limestone; tan to light brown, slightly dolomitic in part, very fine crystalline, commonly micritic, calcite cement, trace dolomite cement, clean, poor to occasionally fair? intercrystalline and vuggy porosity, trace of pyrite, trace of shale partings.
278-280	Limestone; a/a
280-285	MISSED SAMPLE DUE TO LOST CIRCULATION
285-291	Limestone; cream to light brown, dolomitic in part, micritic to very fine crystalline, calcite cement, trace of dolomite cement, clean, poor intercrystalline and vuggy porosity
291-293	Dolomite; medium brown, limy in part, microcrystalline, dolomite cement, minor calcite cement, very slightly argillaceous, occasionally

Depth (m)	Description
	fine crystalline, tight to trace of intercrystalline and vuggy porosity
293-294	Limestone; tan to medium brown, dolomitic in part, micritic to occasionally very fine crystalline, calcite cement, trace of dolomite cement, very slightly argillaceous, tight to trace of intercrystalline and vuggy porosity
294-295	Dolomite; a/a
295-300	MISSED SAMPLE DUE TO LOST CIRCULATION
300-307	Dolomite; light to medium brown, microcrystalline to very fine crystalline, subhedral, dolomite cement, calcite cement, poor to fair intercrystalline and vuggy porosity, common euhedral calcite crystals in vugs
307-308	Limestone; a/a
308-310	Dolomite; a/a
310-316	Interbeds of Dolomite; a/a, and Limestone; tan to medium brown, micritic to occasionally very fine crystalline, calcite cement, trace of dolomite cement, very slightly argillaceous in part, tight; and Shale; light grey/green, blocky, waxy lustre in part, trace of disseminated pyrite, slightly calcareous.
316-320	Interbeds of Limestone; a/a and Dolomite; a/a
320-331	Interbeds of mainly Limestone; dolomitic, cream, micritic to occasionally very fine crystalline, calcite cement, minor to abundant dolomite cement, tight to poor intercrystalline porosity, and Dolomite; cream to medium brown, cryptocrystalline to very fine crystalline, dolomite cement, trace of calcite cement in part, tight to poor intercrystalline porosity, trace of euhedral calcite crystals, trace of shale partings.
331-343	Interbeds of mainly Dolomite; light to medium brown, very fine crystalline, dolomite cement, trace of calcite cement in part, tight to poor intercrystalline porosity, and Limestone; slightly dolomitic, tan to light brown, micritic to very fine granular, calcite cement, trace of dolomite cement, slightly argillaceous in part, tight to poor intergranular porosity, common light grey shale partings, trace of pyrite
RONNING GROUP 335 m -30.13	
343-357	Dolomite; light to medium brown, cryptocrystalline to very fine crystalline, dolomite cement, subhedral, tight to poor vuggy porosity, slightly limy in part, trace of pyrite

Depth (m)	Description
357-367	Dolomite; tan to medium brown, cryptocrystalline to very fine crystalline, limy in part, dolomite cement, trace of calcite cement, slightly argillaceous, tight to poor intercrystalline and vuggy porosity, grades to minor dolomitic limestone in part, trace of shale partings, trace of calcite crystals.
367-377	Dolomite; tan to medium brown, cryptocrystalline to fine crystalline, subhedral, occasionally euhedral, occasionally medium crystalline, dolomite cement, trace of calcite cement, slightly argillaceous in part, tight to occasionally fair intercrystalline and vuggy porosity
377-385	Dolomite; medium brown, microcrystalline to fine crystalline subhedral, occasionally medium crystalline and euhedral dolomite rhombs, slightly argillaceous, dolomite cement, poor vuggy porosity
385-390	Dolomite; medium brown, microcrystalline, dolomite cement, slightly argillaceous, tight to a trace of vuggy porosity
390-395	Dolomite; light to medium brown, cryptocrystalline to microcrystalline, dolomite cement, trace of calcite cement, slightly limy in part, slightly argillaceous, tight to a trace of vuggy porosity
395-408	Dolomite; light to medium brown, cryptocrystalline to microcrystalline, dolomite cement, slightly argillaceous, occasionally very fine to medium crystalline, common dolomite and calcite crystals, poor to fair fracture and/or vuggy porosity
408-422	Dolomite; light to medium brown, light grey, microcrystalline to very fine crystalline, dolomite cement, slightly argillaceous, trace of euhedral calcite crystals, tight to poor vuggy and/or fracture porosity
422-430	Dolomite; light to medium brown, light grey, cryptocrystalline to microcrystalline, dolomite cement, slightly argillaceous, trace of calcite crystals and dolomite rhombs, poor vuggy and fracture porosity, trace of white metasomatic chert
430-444	Dolomite; tan to light brown, microcrystalline to very fine crystalline, subhedral, sucrosic texture in part, dolomite cement, clean, tight to poor intercrystalline porosity
444-461	Dolomite; light to medium brown, cryptocrystalline, to fine crystalline, subhedral, euhedral in part, sucrosic texture in part, dolomite cement, clean, poor to good intercrystalline and vuggy porosity, trace of pyrite
461-476	Dolomite; light to medium brown, microcrystalline to very fine crystalline, subhedral, sucrosic texture in part, dolomite cement, clean, poor to fair intercrystalline and vuggy porosity, trace of pyrite
476-480	Dolomite; lght to medium brown, cryptocrystalline to microcrystalline, occasionally very fine to fine crystalline,

Depth (m)	Description
	occasionally euhedral, dolomite cement, clean, tight with occasional poor to fair vuggy porosity
480-491	Dolomite; medium brown, microcrystalline, occasional very fine to fine crystalline, occasionally euhedral, dolomite cement, clean, tight to poor vuggy and fracture porosity.
491-505	Dolomite; medium brown, microcrystalline to fine crystalline occasional euhedral rhombs, clean, poor to fair vuggy and inter-crystalline porosity
505-510	Dolomite; cream to tan, cryptocrystalline to medium crystalline, common euhedral rhombs, clean, poor to fair intercrystalline and vuggy porosity
510-519	Dolomite; cream to light grey, very fine to medium crystalline, subhedral, occasional euhedral rhombs, clean, poor vuggy porosity, trace of pyrite
519-538	Dolomite; light grey, light grey/brown, cryptocrystalline to fine crystalline, subhedral, dolomite cement, clean, poor to fair intercrystalline and vuggy porosity, trace of pyrite
538-552	Dolomite; cream to light grey, cryptocrystalline to fine crystalline, subhedral, clean, tight to poor intercrystalline porosity, common bands and pockets of white to clear, metasomatic chert, trace shale partings
552-566	Dolomite; light grey, light brown, cryptocrystalline to very fine crystalline, occasionally subhedral, dolomite cement, poor vuggy porosity, abundant metasomatic chert bands, and pockets, quartz and chert lining vugs
566-580	Dolomite; cream, light grey, light brown, cryptocrystalline to medium crystalline, subhedral, occasional euhedral dolomite rhombs, dolomite cement, clean, poor to fair vuggy porosity, abundant metasomatic chert, with minor partings and bands of Shale; light grey-green, subfissile, micromicaceous in part, trace of disseminated pyrite, calcareous
580-595	Dolomite; cream, light grey, tan, cryptocrystalline to fine crystalline, occasionally medium crystalline, subhedral, occasionally euhedral, dolomite cement, clean, poor to fair vuggy and intercrystalline porosity, traces of white to clear banded metasomatic chert.
595-600	Dolomite; a/a, with abundant Chert; clear to white, tan, cryptocrystalline, banded, conchoidal fracture, hard, trace of shale partings

Depth (m)	Description
600-606	Dolomite; cream, microcrystalline to very fine crystalline, subhedral, clean, poor vuggy porosity, trace of chert, trace of shale partings
606-617	Dolomite; tan to light brown, microcrystalline to very fine crystalline, subhedral, clean, poor vuggy porosity, trace of chert, trace of shale partings
617-625	Dolomite; cream, microcrystalline to medium crystalline, subhedral, occasional euhedral rhombs, dolomite cement, clean, poor to fair intercrystalline and vuggy porosity, trace of metasomatic chert
625-634	Dolomite; cream to light grey, microcrystalline to medium crystalline, subhedral, dolomite cement, poor vuggy porosity, trace chert and quartz grains and angular fragments.
634-648	Dolomite; light grey, fine to medium crystalline, subhedral, occasional euhedral rhombs, dolomite cement, poor to occasionally fair vuggy porosity, trace of metasomatic chert and quartz fragments and grains
648-657	Dolomite; a/a, interbedded with Chert; white, clear, opaque to translucent, conchoidal fractures, hard, trace of limestone
657-671	Interbeds of Dolomite; light grey to light brown, fine crystalline to medium crystalline, dolomite cement, subhedral, clean, poor vuggy porosity, and Limestone; cream to light brown, micritic, clean, calcite cement, dolomite cement in part, tight and bands of Chert; a/a
671-674	Dolomite; cream to light grey, light brown, cryptocrystalline to medium crystalline, dolomite cement, calcite cement, slightly limy in part, clean to slightly argillaceous, tight to poor vuggy porosity, trace of chert
674-685	Dolomite; white to light grey, microcrystalline to fine crystalline, dolomite cement, subhedral, clean, poor intercrystalline and vuggy porosity, trace of metasomatic chert
685-698	Dolomite; white to light grey, microcrystalline to medium crystalline, dolomite cement, subhedral, clean, poor intercrystalline and vuggy porosity, trace white chert and clear quartz crystals
698-710	Dolomite; white to cream, light grey, microcrystalline to fine crystalline, occasionally medium crystalline, dolomite cement, subhedral, clean, poor intercrystalline and vuggy porosity, trace of chert and quartz grains.
710-720	Dolomite; white to cream, light grey, microcrystalline to medium crystalling, subhedral, dolomite cement, clean, poor intercrystalline

Depth (m)	Description
	and vuggy porosity, trace to common chert fragments.
720-727	Dolomite; white to cream, microcrystalline to fine crystalline, dolomite cement, subhedral, clean, poor intercrystalline porosity (very poor sample - mainly cement)
727-737	Dolomite; white to tan, light grey, very fine to medium crystalline, subhedral, dolomite cement, clean, poor intercrystalline porosity, trace of vuggy porosity
737-740	Dolomite; cream, microcrystalline to very fine crystalline? (sample ground very fine - unable to described properly).
740-756	Dolomite; tan, very fine to medium crystalline, subhedral, dolomite cement, clean, poor intercrystalline porosity, trace of vuggy porosity (last 10 meters of sample was ground very fine and assumed to be a/a)
756-765	Dolomite; tan to light grey, cream, microcrystalline to very fine crystalline, subhedral, dolomite cement, clean, very poor intercrystalline porosity, trace of vuggy porosity (poor sample)
765-785	Dolomite; white to cream, cryptocrystalline to fine crystalline, subhedral, dolomite cement, clean, trace of intercrystalline porosity, trace of vuggy porosity, trace of metasomatic chert (poor samples - ground very fine)
785-796	Dolomite; white to cream, microcrystalline to very fine crystalline, subhedral, dolomite cement, clean, tight to trace of pinpoint porosity, trace of chert
796-805	Dolomite; white to tan, light brown, very fine crystalline, subhedral, dolomite cement, clean to very slightly argillaceous, tight to trace of pinpoint porosity, trace of chert.
805-818	Dolomite; white to occasionally tan, microcrystalline to very fine crystalline, subhedral, dolomite cement, tight to trace of pinpoint porosity, trace of chert
818-827	Dolomite; white to tan, occasionally light brown, very fine crystalline, subhedral, dolomite cement, clean to occasionally very slightly argillaceous, tight to trace of pinpoint porosity, trace of chert
827-830	Dolomite; white to cream, occasionally light brown, microcrystalline to fine crystalline, subhedral, clean to occasionally very slightly argillaceous, tight to trace of pinpoint porosity
830-845	Dolomite; white to cream, tan, very fine crystalline to fine crystalline, subhedral, dolomite cement, clean to very slightly argillaceous in part, tight to very poor pinpoint porosity, trace of chert and

Depth (m)	Description
	occasional quartz grains
845-860	Dolomite; white, tan, light grey, light brown, microcrystalline to fine crystalline, subhedral, dolomite cement, clean to very slightly argillaceous in part, slightly silty, tight to very poor pinpoint porosity, trace of chert and quartz grains
860-875	Dolomite; white to tan, light grey, microcrystalline to fine crystalline, subhedral, dolomite cement, clean, slightly silty, tight to very poor pinpoint porosity, trace of chert and rare quartz crystals
875-886	Dolomite; cream to tan, microcrystalline to fine crystalline, subhedral, clean, slightly silty, tight to very poor pinpoint porosity, trace of vuggy porosity.
886-892	Dolomite; cream to tan, orange, microcrystalline to fine crystalline, subhedral, dolomite cement, clean, slightly silty in part, slight iron stain in part, very poor pinpoint and trace of vuggy porosity
892-907	Dolomite; white to light brown, light grey, microcrystalline to fine crystalline, subhedral, dolomite cement, clean to slightly argillaceous in part, slightly silty in part, tight to very poor pinpoint porosity, trace of chert
907-921	Dolomite; white to tan, very fine to fine crystalline, subhedral, dolomite cement, clean to very slightly argillaceous, tight to very poor pinpoint porosity, trace of chert and rare quartz crystals
921-935	Dolomite; white to tan, commonly light brown, microcrystalline to fine crystalline, subhedral, sucrosic texture in part, dolomite cement, clean to very slightly argillaceous, very poor pinpoint porosity, trace of metasomatic chert and occasional quartz crystals.
935-944	Dolomite; white to tan, rarely light brown, microcrystalline to fine crystalline, occasionally medium crystalline, subhedral, sucrosic texture in part, dolomite cement, clean to very slightly argillaceous in part, very poor pinpoint and intercrystalline porosity.
944-956	Dolomite; white to tan, occasionally light brown, cryptocrystalline to very fine crystalline, subhedral, dolomite cement, clean to slightly argillaceous, sucrosic texture in part, very poor intercrystalline and poinpoint porosity, trace of chert
956-970	Dolomite; white to cream, occasionally light brown and light grey, cryptocrystalline to very fine crystalline, subhedral, dolomite cement, sucrosic texture in part, clean to slightly argillaceous, very poor intercrystalline and pinpoint porosity, trace of metasomatic chert
970-987	Dolomite; cream to tan, microcrystalline to very fine crystalline, subhedral, sucrosic texture in part, clean to slightly argillaceous, dolomite cement, very poor intercrystalline and pinpoint porosity,

Depth (m)	Description
	trace of chert, rare shale partings
987-996	Dolomite; white to cream, occasionally light brown, microcrystalline to very fine crystalline, subhedral, dolomite cement, sucrosic texture in part, clean to occasionally slightly argillaceous, very poor intercrystalline and pinpoint porosity, trace of metasomatic chert and occasional quartz crystals, rare shale partings.
996-1001	Dolomite; a/a
1001-1016	Dolomite; white to tan, rarely light brown, microcrystalline to fine crystalline, subhedral, dolomite cement, sucrosic texture in part, clean to occasionally slightly argillaceous, very poor pinpoint and intercrystalline porosity, trace of chert
1016-1032	Dolomite; white to tan, occasionally light grey, very fine crystalline to occasionally fine crystalline, subhedral, dolomite cement, sucrosic texture in part, clean to occasionally slightly argillaceous, very poor intercrystalline and pinpoint porosity, trace of chert, rare shale partings, trace of pyrite
1032-1041	Dolomite; cream to light brown, occasionally medium brown, subhedral, dolomite cement, sucrosic texture in part, clean to occasionally slightly argillaceous, very poor intercrystalline and pinpoint porosity
1041-1046	Dolomite; cream to light brown, occasionally medium brown, subhedral, dolomite cement, sucrosic texture in part, clean to slightly argillaceous, poor to fair intercrystalline porosity, minor pinpoint porosity, trace of pyrite
1050-1061	Dolomite; cream to tan, microcrystalline to very fine crystalline, subhedral, dolomite cement, clean, occasionally slightly argillaceous, sucrosic texture in part, poor to occasionally fair intercrystalline and pinpoint porosity
1061-1071	Dolomite; cream to tan, light grey, cryptocrystalline to very fine crystalline, subhedral, sucrosic texture in part, dolomite cement, clean, very poor intercrystalline porosity.
1071-1083	Dolomite; cream to tan, light grey, cryptocrystalline to fine crystalline, subhedral, sucrosic texture in part, dolomite cement, clean, poor intercrystalline porosity, trace of vuggy porosity, trace of quartz crystals, rare green shale partings.
1083-1095	Dolomite; cream to tan, light grey, cryptocrystalline to microcrystalline, occasionally very fine crystalline, subhedral, sucrosic texture in part, dolomite cement, clean, very poor intercrystalline porosity, rare green shale partings.

Depth (m)	Description
1095-1105	Dolomite; cream to tan, medium brown, mottled, cryptocrystalline to fine crystalline, subhedral, dolomite cement, sucrosic texture in part, slightly argillaceous in part, poor intercrystalline porosity, rare brown shale partings
1105-1120	Dolomite; light to medium grey, cryptocrystalline to microcrystalline, dolomite cement, slightly argillaceous, tight, trace of chert.
1120-1125	Dolomite; white, cream to medium brown, medium grey, mottled, cryptocrystalline to very fine crystalline, subhedral, dolomite cement, tight to very poor intercrystalline porosity
1125-1136	Dolomite; light to medium grey, light brown, cryptocrystalline to microcrystalline, dolomite cement, slightly argillaceous to argillaceous, tight, trace of green shale partings.
1136-1152	Dolomite; white to light grey, light brown, cryptocrystalline to microcrystalline, dolomite cement, slightly argillaceous, tight, trace of grey/green shale partings
1152-1162	Dolomite; cream to light grey, medium grey, medium brown, mottled, cryptocrystalline to microcrystalline, dolomite cement, slightly argillaceous to occasionally argillaceous, tight, trace of grey/green and brown shale partings.
1162-1177	Dolomite; cream to light grey, cryptocrystalline to microcrystalline, moderately hard, slightly argillaceous, tight, trace of grey shale partings
1177-1192	Dolomite; cream to light grey, medium grey/brown, mottled cryptocrystalline to microcrystalline, hard, slightly argillaceous, tight, trace of shale partings
1192-1204	Dolomite; light grey to medium grey, medium brown, mottled, hard, cryptocrystalline to microcrystalline, argillaceous in part, dolomite cement, tight, trace of shale partings
1204-1217	Dolomite; tan to light brown, medium grey/brown, cryptocrystalline to microcrystalline, slightly argillaceous to argillaceous, dolomite cement, trace of pyrite inclusions, tight; with rare thin bands and laminae of Shale; medium grey, grey/green, subfissile, micromicaceous, dolomitic, moderately hard
SALINE RIVER -912.13	
1217-1222	Dolomite; cream to light brown, light grey/brown, medium brown, cryptocrystalline to microcrystalline, slightly argillaceous to argillaceous, dolomite cement, tight with thin bands and laminae of Shale; grey/green, grey, dark brown, subfissile, micromicaceous, dolomitic in part, trace of disseminated pyrite.

Depth (m)	Description
1222-1232	Interbeds of Dolomite; cream to tan, minor light brown, cryptocrystalline to microcrystalline, very slightly argillaceous, dolomite cement, tight; and Shale; medium green, medium grey/green, subfissile, micromicaceous in part, slightly dolomitic in part, common disseminated pyrite.
1232-1241	Interbeds of Mainly Shale; red, green, grey/green, maroon, subfissile, micromicaceous, slightly dolomitic in part, ferrous in part, traces of disseminated pyrite; and Dolomite; a/a, with common bands and pockets of anhydrite
1241-1251	Interbeds of Dolomite; cream to tan, occasionally light green, light red, cryptocrystalline to microcrystalline, dolomite cement, trace of anhydrite cement, occasionally argillaceous, tight, grades to shale in part; and Shale; a/a, with minor bands, pockets and laminae of anhydrite
1251-1255	Shale; red, maroon, green, subfissile, micromicaceous in part, slightly dolomitic, slightly anhydritic, finely interbedded with Dolomite; cream to tan, occasionally light green and light red, cryptocrystalline to microcrystalline, dolomite cement, common anhydrite cement, occasionally argillaceous, tight, grades to shale in part
1255-1260	Shale; medium to dark green, medium to dark grey/green, rarely red, subfissile, micromicaceous in part, slightly dolomitic, slightly anhydritic, traces of disseminated pyrite, with minor bands and laminae of Dolomite; a/a, and rare laminae and pockets of Anhydrite; white to light grey, soft, satiny lustre in part, slightly argillaceous in part, interlaminated with dolomite in part.
1260-1265	Shale; a/a, with minor thin bands of Dolomite; light to medium grey, microcrystalline, dolomite cement, argillaceous to very argillaceous, slightly anhydritic, tight.
1265-1282.6	Interbeds of mainly Shale; light to medium green, light to medium grey/green, trace of red, subfissile, micromicaceous, slightly anhydritic in part, dolomitic in part, trace of disseminated pyrite; with common bands of Dolomite; light to dark grey, tan, cryptocrystalline to microcrystalline, dolomite cement, abundant anhydrite cement in part, slightly argillaceous to argillaceous, tight, grades to dolomitic shale in part, and Anhydrite; white to light grey, soft, satiny lustre in part, slightly argillaceous in part, interlaminated with dolomite in part
SALINE RIVER SALT MEMBER -977.73	
1282.6-1311	Salt; with rare thin bands or laminae of Dolomite; light to medium grey, microcrystalline, dolomite cement, anhydrite cement, slightly argillaceous to argillaceous, tight, and

Depth (m)	Description
	Shale; light to medium grey, light to medium grey/green, soft, blocky, anhydritic in part, slightly dolomitic in part, and Anhydrite; light to medium grey, blocky, satiny lustre in part, chalky texture in part, occasional dolomite rhomb inclusions.
1311-1320	Halite; clear, white, with rare thin bands and laminae of Shale; light grey, blocky, soft, dolomitic, anhydritic, minor salt casts, and Dolomite; white to tan, microcrystalline, dolomite cement, abundant anhydrite cement, argillaceous, tight, salt casts and Anhydrite; light grey, blocky, soft chalky texture in part, satiny lustre in part
1320-1325	Halite; clear white, slight orange tint
1325-1351	Halite; white, clear, with rare thin laminae of Anhydrite; white to light grey, soft, slightly argillaceous, satiny lustre in part, abundant salt casts and Shale; a/a and Dolomite a/a
1351-1356	Interbeds of Shale; light to medium grey/brown, blocky to subfissile, micromicaceous, soft, slightly dolomitic, slightly anhydritic, and Dolomite; light to medium brown, cryptocrystalline to microcrystalline, dolomite cement, minor anhydrite cement in part, argillaceous, tight, and Anhydrite; light to medium grey, soft, blocky, satiny lustre.
1356-1360	Halite; clear, white with rare laminae of Shale; a/a Anhydrite; a/a
MOUNT CAP -1055.13	
1360-1372	Finely interbedded Dolomite; medium grey, medium dark brown, cryptocrystalline to microcrystalline, dolomite cement, anhydrite cement in part, argillaceous to very argillaceous, tight, grades to dolomitic shale; and Shale; medium grey, medium grey/brown, blocky to subfissile, micromicaceous, dolomitic in part, anhydritic in part, grades to dolomite, with minor laminae and pockets of Anhydrite; light grey, white, chalky texture in part, satiny lustre in part, interlaminated with dolomite, minor salt casts.
1372-1378	Dolomite; light grey, brown, medium to dark brown, cryptocrystalline to microcrystalline, dolomite cement, abundant anhydrite cement, argillaceous to very argillaceous, tight, grades to marlstone; and common bands of Shale; dark brown, dark grey/brown, blocky, dolomitic, anhydritic in part, with rare thin laminae and pockets of Anhydrite; a/a

Depth (m)	Description
1378-1381	Dolomite; medium to dark brown, dark grey/brown, cryptocrystalline to microcrystalline, dolomite cement, trace of anhydrite cement, argillaceous to very argillaceous, tight
1381-1388	Dolomite; light to dark grey/brown, cryptocrystalline to microcrystalline, dolomite cement, anhydrite cement, slightly argillaceous to very argillaceous, tight with minor thin bands or laminae of Shale; a/a and Anhydrite; white to light grey, chalky texture in part, satiny lustre in part, interlaminated with dolomite.
1388-1400	Dolomite; medium to dark brown, cryptocrystalline to very fine crystalline, subhedral, dolomite cement, trace of anhydrite cement, slightly argillaceous to argillaceous, tight to trace of intercrystalline porosity, trace of fine crystalline dolomite, slightly bitumen engrained in part?
1400-1415	Dolomite; light to dark brown, cryptocrystalline to very fine crystalline, subhedral, microsucrosic texture in part, dolomite cement, trace of anhydrite cement in part, slightly argillaceous to argillaceous, tight, trace bitumen engrained in part?
1415-1427	Dolomite; light to medium brown, cryptocrystalline to very fine crystalline, subhedral, microsucrosic texture in part, dolomite cement, trace of anhydrite cement in part, slightly argillaceous to argillaceous, tight
1427-1432	Dolomite; a/a, with minor thin bands of Shale; medium grey, blocky, dolomitic, micromicaceous, moderately hard
1432-1443	Dolomite; light to medium grey, light to medium brown, microcrystalline to fine crystalline, dolomite cement, slightly argillaceous to very argillaceous, tight to trace of vuggy and intercrystalline porosity, grades to shale in part, with common laminae and bands of Shale; light to medium grey, blocky, very dolomitic to dolomitic, traces of disseminated pyrite
1443-1447	Dolomite; light to medium brown, medium grey, microcrystalline to fine crystalline, occasionally medium crystalline, subhedral, dolomite cement, slightly argillaceous to argillaceous, tight to trace of intercrystalline porosity, grades to shale in part, with minor laminae and bands of Shale; a/a
1447-1453	Interbeds of Dolomite; medium to dark grey, medium to dark brown, black, cryptocrystalline to very fine crystalline, subhedral, dolomite cement, argillaceous to very argillaceous, tight, grades to shale, and Shale; medium to dark grey, black, blocky, hard, dolomitic, micromicaceous

Depth (m)	Description
1453-1458	Dolomite; light to dark brown, light to medium grey, cryptocrystalline to fine crystalline, subhedral, dolomite cement, argillaceous to very argillaceous in part, tight, grades to shale in part; with common laminae and bands of Shale; light to medium grey, black, blocky, micromicaceous, dolomitic
1458-1463	Dolomite; light to dark brown, cryptocrystalline to fine crystalline, subhedral, dolomite cement, slightly argillaceous to argillaceous, tight, common pyrite inclusions with minor bands of Shale; a/a
1463-1478	Shale; medium grey, medium grey/green, subfissile, micromicaceous in part, slightly dolomitic in part, slight traces of glauconite? traces of pyrite with occasional thin bands of Dolomite; light to medium brown, cryptocrystalline to fine crystalline, subhedral, dolomite cement, slightly limy in part, slightly argillaceous to argillaceous, tight, grades to shale in part
1478-1490	Dolomite; light to dark brown, microcrystalline to fine crystalline, subhedral, dolomite cement, slightly argillaceous to argillaceous, tight to poor intercrystalline and trace of vuggy porosity, bitumen engrained in part, with rare bands of Shale; medium grey/green, black, blocky to subfissile, micromicaceous in part, trace of pyrite inclusions in part, bitumen engrained in part
MOUNT CLARKE -1085.13	
1490-1493	Sandstone; clear, white, quartz, fine to medium grained, occasionally coarse grained, subangular to subrounded, poorly sorted, common silty matrix, abundant silica cement, quartz overgrowths, clean, poor effective intergranular porosity, trace of dead oil staining
1493-1498	Sandstone; white to light grey/brown, quartz, silt to fine grained, occasionally medium grained, subangular to subrounded, poorly sorted, abundant silica and dolomite cement, common quartz overgrowths, clean to slightly argillaceous, trace of glauconite, tight to occasional poor porosity, trace of dead oil staining, medium yellow fluorescence (partly mineral?), very slow very weak yellow massive cut, with rare bands of Dolomite; a/a, and rare shale bands.
1498-1503	Sandstone; white to light grey/brown, light grey, quartz, silt to very fine grained, occasionally fine to medium grained, subangular to subrounded, moderately sorted, abundant silica and dolomite cement, occasional quartz overgrowths, clean to slightly argillaceous, trace of glauconite, tight to occasional poor intergranular porosity, trace of dead oil staining, medium yellow fluorescence, very slow weak yellow massive cut.

Depth (m)	Description
PROTEROZOIC -1198.13	
1503-1508	Dolomite; cream to light grey, cryptocrystalline, occasionally fine crystalline, dolomite cement, clean to slightly argillaceous, rarely sandy, tight.
1508-1520	Dolomite; cream to tan, occasionally light brown, siliceous cement, tight, hard, traces of sandstone, trace of white metasomatic chert
1520-1526	Dolomite; tan to light brown, occasionally medium brown, trace pink, cryptocrystalline to fine crystalline, subhedral, dolomite cement, silica cement, hard, clean to very slightly argillaceous, trace of vuggy porosity, trace of shale partings.
1526-1543	Dolomite; light to medium brown, cryptocrystalline to microcrystalline, dolomite cement, silica cement, hard, clean to slightly argillaceous, trace of vuggy porosity, trace of shale partings
1543-1550	Dolomite; tan to medium brown, cryptocrystalline to microcrystalline, dolomite cement, abundant silica cement, grades to pockets of chert, hard, clean to very slightly argillaceous, tight to trace of vuggy porosity, trace of disseminated pyrite.
1550-1554	Dolomite; cream to tan, occasionally light brown, cryptocrystalline to microcrystalline, dolomite cement, silica cement, hard, clean, tight to trace of vuggy porosity, grades to chert in part, traces of disseminated pyrite, trace of chert.
1554-1564	Dolomite; tan to light brown, occasionally medium brown, cryptocrystalline, dolomite cement, abundant silica cement, hard, clean, tight, grades to chert in part, trace of disseminated pyrite, common metasomatic chert
1564-1571	Dolomite; cream to light brown, cryptocrystalline to microcrystalline, dolomite cement, silica cement, occasional red microveins, clean, tight to trace of vuggy and fracture porosity, trace of chert.
1571-1580	Dolomite; tan to light brown, cryptocrystalline to microcrystalline, dolomite cement, silica cement, clean, occasional siliceous oolites or quartz grains, tight, trace of metasomatic chert
1580-1591	Dolomite; tan to medium brown, cryptocrystalline to very fine crystalline, dolomite cement, abundant silica cement, clean to very slightly argillaceous, rare siliceous oolites or quartz grains, tight to trace of vuggy or fracture porosity, trace of pyrite, trace of chert.
1591-1605 FTD	Dolomite; tan to medium brown, cryptocrystalline to occasionally fine crystalline, brecciated in part, dolomite cement, silica cement, clean to very slightly argillaceous, trace of siliceous oolites or quartz grains, tight to trace of vuggy or fracture porosity, trace of metasomatic chert.

PCI WESTCOAST K'AHBAMI H-56

WELL HISTORY REPORT

a) INTRODUCTION

- i) Summary
- ii) Location Map

b) GENERAL DATA

- i) Well Name and Number
- ii) Well Location
- iii) Unique Well Identifier
- iv) Operator and Drilling Contractor
- v) Drilling Unit
- vi) Position Keeping
- vii) Support Craft
- viii) Drilling Unit Performance
- ix) Difficulties and Delays

c) SUMMARY OF DRILLING OPERATIONS

- i) Elevations
- ii) Total Depth
- iii) Date Spudded
- iv) Date Drilling Completed
- v) Date of Rig Release
- vi) Well Status
- vii) Hole Sizes and Depth
- viii) Casing and Cementing Record
- ix) Sidetracked Hole
- x) Drilling Fluids
- xi) Fishing Operation
- xii) Well Kicks
- xiii) Formation Leak-Off Tests

c) SUMMARY OF DRILLING OPERATIONS (cont'd)

xiv) Time Breakdown

xv) Deviation Survey

xvi) Abandonment Plugs

xvii) Composite Well Records

APPENDIX

Drilling Data

1. Deviation Records

2. Final Survey Plan

PCI WESTCOAST K'AHBAMI H-56

a) INTRODUCTION

i) Summary:

PCI Westcoast K'ahbami H-56, located in the Tedji Lake area of the Northwest Territories (Figure 1) was drilled to a total depth of 1605 m. It was the third well drilled in the 1984 - 85 Northern Interior Plains Project, and was drilled in 31 days.

The location coordinates for this well are 67° 45' 27.39" North Latitude and 127° 24' 49.41" West Longitude. The ground elevation is 298.65 m above sea level.

Petro-Canada Incorporated of Calgary operated the well. ATCO Drilling Ltd. of Calgary, the contractor, used Atco/Equtak #76, a diesel mechanical rig built in 1983.

The primary objective of this exploratory well was the oil potential in the sandstones of the Lower Cambrian Mt. Clarke Formation. Secondary objectives were the Mt. Cap formation and the Proterozic formation.

PCI Westcoast K'ahbami H-56 was spudded on 1985-03-05 at 1000 hours. A 311 mm hole was drilled and reamed to 445 mm and 340 mm conductor pipe was set at 117 m.

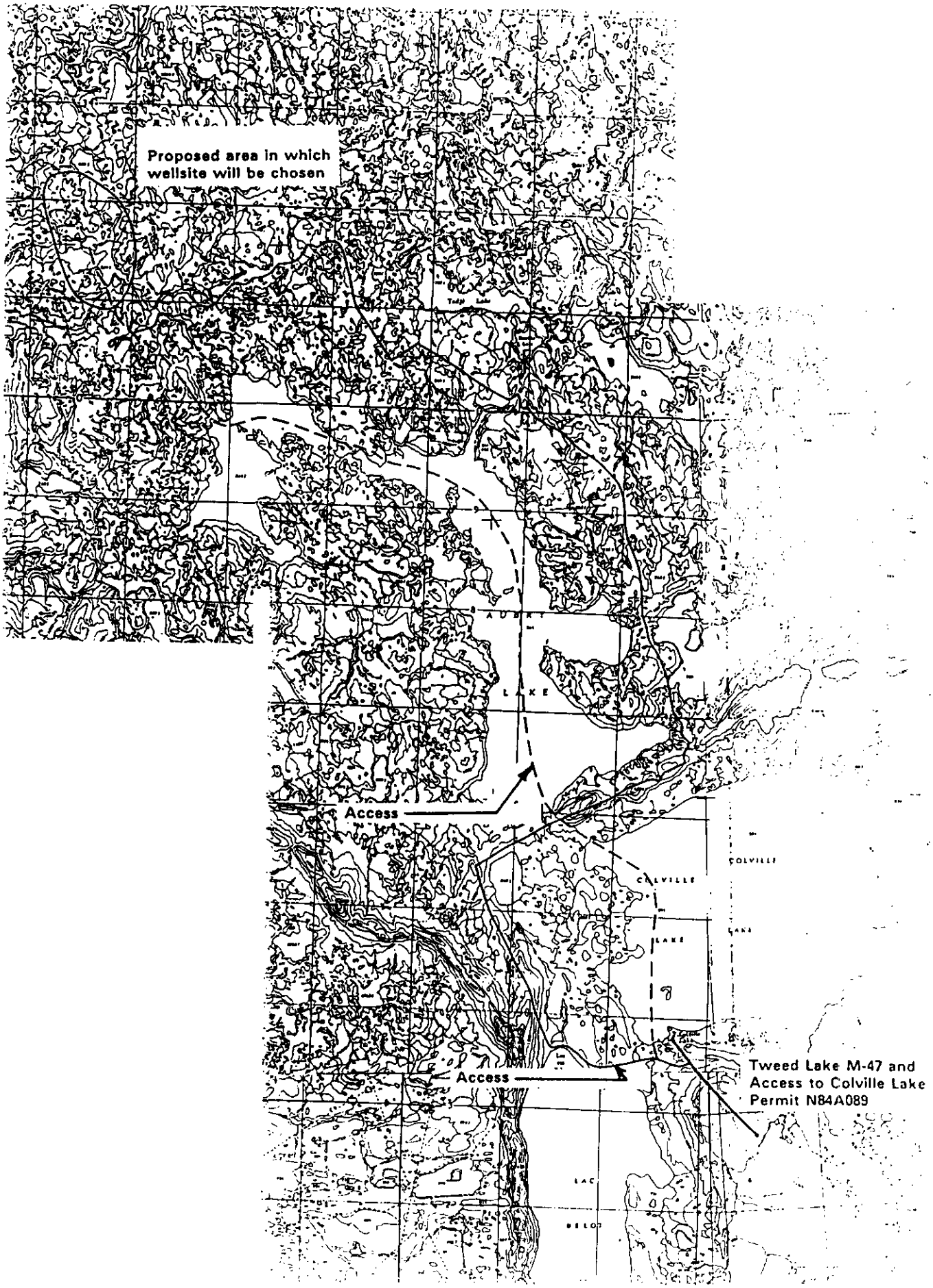
A 346 mm, 21,000 KPa, B.O.P. was nippled up and the 311 mm surface hole was drilled and 245 mm casing set at 717 m. Water was used when drilling from 120 to 154 m and a stable foam drilling fluid system was used from 154 to 720 m.

The 216 mm main hole was drilled with water to 892 m, drilling mud to 1075 m and a salt saturated drilling mud to 1605 m. The hole was logged from 1605 m to 717 m. Penetration rates for the main hole averaged 3.3 m/hr.

Abandonment was completed and the Atco/Equtak #76 Rig was released on 1985-04-08 at 0800 hours.

LOCATION MAP

Figure 1



b) **GENERAL DATA**

i)	Well Name and Number	PCI Westcoast K'ahbami H-56 Grid Area: 67° 50', 127° 15'
ii)	Well Location:	North Latitude 67° 45' 27.39" West Longitude 127° 24' 49.41"
iii)	Unique Well Identifier:	300H5667450127240
iv)	Operator:	Petro-Canada Incorporated P.O. Box 2844 Calgary, Alberta T2P 3E3
	Contractor:	Atco Drilling Limited 700, 800 - 6th Avenue S.W. Calgary, Alberta
v)	Drilling Unit:	Name: Atco/Equtak Rig #76 Type: Triple diesel mechanical Year built: 1983 Location: Nisku, Alberta
vi)	Position Keeping:	N/A to this well
vii)	Support Craft:	N/A to this well
viii)	Drilling Unit Performance:	N/A to this well
ix)	Difficulties & Delays:	No difficulties or delays were encountered while drilling this well that were not directly associated with downhole operations.

c) SUMMARY OF DRILLING OPERATIONS

i) Elevations: Ground: 298.65 m
Kelly Bushing: 304.87 m

ii) Total Depth: Drilled: 1605 m
Logged: 1605 m

iii) Date and Hour Spudded: 1985-03-05 1000 hours

iv) Date Drilling Completed: 1985-04-05 0700 hours

v) Date of Rig Release: 1985-04-08 0800 hours

vi) Well Status: Plugged and abandoned

vii) Hole Sizes and Depths:

Classification	Bit Number	Size (mm)	Depth (m) in	Depth (m) out	Metres Drilled	Remarks
Conductor	1A	311	0	120	120	
	2A	444.5	0	120	120	Reamed 311 mm pilot hole to 445 m
Surface	3B	311	120	141	21	
	4B	311	141	444	303	
	5B	311	444	720	276	
	6B	311	720	720	0	Reamed 3 singles to bottom
Main	7C	216	720	725	5	Drilled out float shoe
	8C	216	725	856	131	20 mm under guage
	9C	216	856	892	36	Ream from 825m to 856m
	10C	216	892	1031	139	Work junk sub on bottom
	11C	216	1031	1064	33	
	12C	216	1064	1152	88	
	13C	216	1152	1204	52	Work junk basket
	14C	216	1204	1260	56	
	15C	216	1260	1478	218	
	16C	216	1478	1525	47	
	17C	216	1525	1605	80	

Summary of Mud Properties:

Section	Interval (m)	Weight (kg/m^3)	Properties Funnel Vis (S/L)	Water Loss (average, cm^3)	PH (average)	Cl (10^3 mg/l)
Conductor	0- 120	1120	45 - 64	-	9.5	-
Surface	120- 154	Water	-	-	-	-
Surface	154- 720	Stable Foam	-	-	-	-
Main	720- 892	Water	-	-	-	-
Main	892-1248	1010-1075	30 - 42	11	9	-
Main	1248-1605	1075-1260	37 - 59	21	10	160 - 165

xi) Fishing Operation: One fishing operation occurred when a drive bushing for a Grant Head was lost down hole. Fish was recovered with a magnet and a wash over shoe.

xii) Well Kicks: None

xiii) Formation Leak-off Tests: A formation leak-off test was run on day 15 after drilling out the surface casing shoe at 720 m and drilling a 216 mm hole to 725 m. Water (density 1000 kg/m^3) was used for the test and a pressure of 15,000 KPa at surface was reached (equivalent mud weight 3124 kg/m^3). The formation did not breakdown. The pressure gradient was 30.5 KPa/m.

xiv) Time Breakdown:

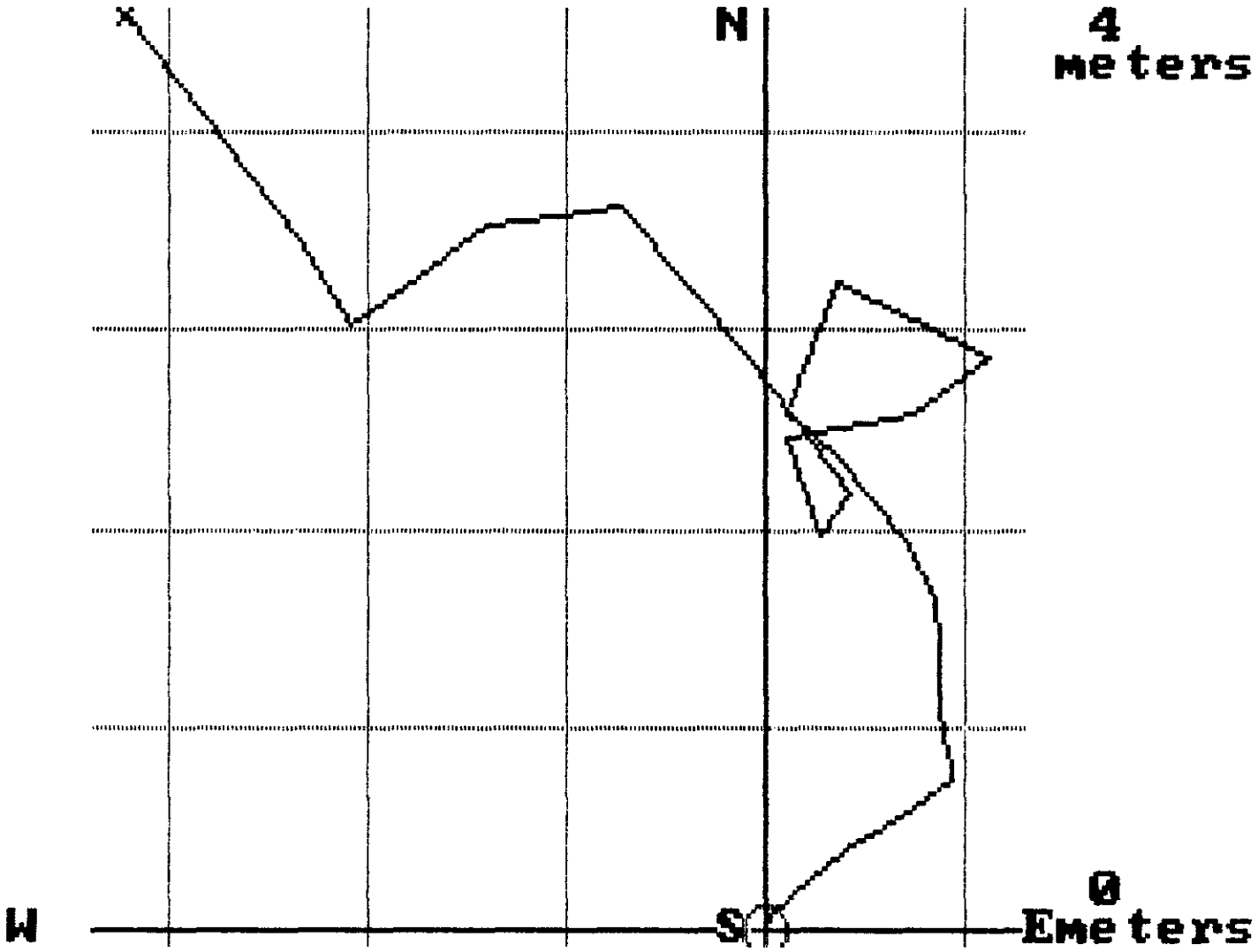
Time Breakdown	Conductor	Surface	Main	Total
Drill	17.0	118.5	265.0	400.5
Trip	8.0	19.5	53.75	81.25
Ream/Clean	14.5	2.25	2.25	19.0
Condition	3.0	1.25	3.50	7.75
Rig Service	0.75	5.50	10.50	16.75
Mech. Down	-	4.75	0.75	5.50
Survey	1.25	5.25	7.0	13.5
Csg - Cmt. WOC	28.5	21.50	35.5	85.5
Press. Test	-	14.5	31.75	46.25
Bleed Off Hole	-	19.0	-	19.0
Retrieve Inline Valve	-	0.5	-	0.5
Foam Hole	-	2.25	-	2.25
W.O. Air Drill Equipment	-	2.25	-	2.25
Unload Hole	-	1.25	-	1.25
Drill Out Cement	-	3.75	-	3.75
BHA Installation	-	3.25	-	3.25
Rig Up Air	-	1.50	-	1.50
Fill Cellar	-	-	6.0	6.0
Leak-Off Test	-	-	0.75	0.75
Fishing	-	-	27.5	27.5
Flow Check	-	-	2.0	2.0
Work Junk Basket	-	-	1.0	1.0
Inspect BHA	-	-	6.0	6.0
Clean Mud Tanks	-	-	8.0	8.0
BOP Drill	-	-	3.5	3.5
Logging	-	13.5	28.0	41.5
Samples	-	-	8.0	8.0
TOTAL	73.0	240.25	500.75	814.0

PETRO-CANADA

PETRO-CANADA
DIRECTIONAL DRILLING PROGRAM

PCI KAHBAMI H-56
Single shot directional survey. File: KAHBAMI
PCI WESTCOAST K'AHBAMI SURVEY PLAN

Horizontal Projection



Each grid = 1 meters.

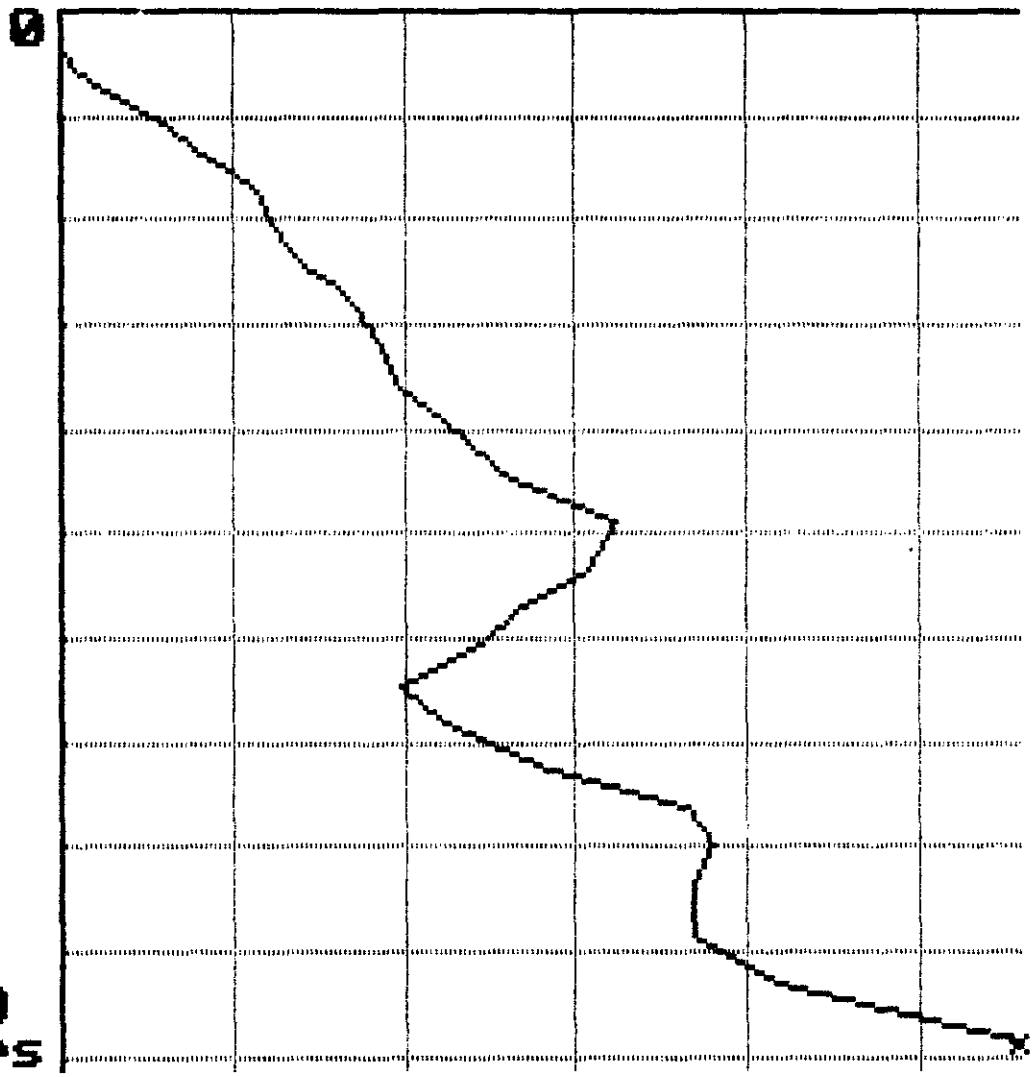
Bottom Hole Co-ordinates:	**4.58 metres North** **3.21 metres West**
Closure Distance:	**5.59 metres**
Closure Direction:	**North 35 Deg 1 Min West**

PETRO-CANADA

PETRO-CANADA
DIRECTIONAL DRILLING PROGRAM

PCI KAHBAMI H-56
Single shot directional survey. File: KAHBAMI
PCI WESTCOAST K'AHBAMI SURVEY PLAN

Horizontal Displacement vs Depth.



viii) Casing and Cementing Details:

Hole Classification:	Conductor	Surface		Main
Hole Size:	445 mm	311 mm		216 mm
Casing Size:	340 mm	245 mm		Abandonment
Weight:	101 kg/m	60 kg/m		Plugs
Grade:	K-55	L-80		
Coupling:	BT&C	LT&C		
Number of Joints:	9	59		
Number of Centralizers:	4	8		
Date of Run:	85-03-07	85-03-18		
Shoe Depth:	117 m	717 m		
Tonnes of Cement:	32.4	43.0	7.3	
Type of Cement:	Arctic Set	Class G	Class G	
Additives:	none	0.5% D-65 0.1% D-13	0.5% D-65 0.1% D-13	
Height of Cement:	Surface	704 m	Surface	
Based on:	Topped off w/1.4 T from 28 m + 1.4 T Class "G"	Cement bond log	Returns to surface	

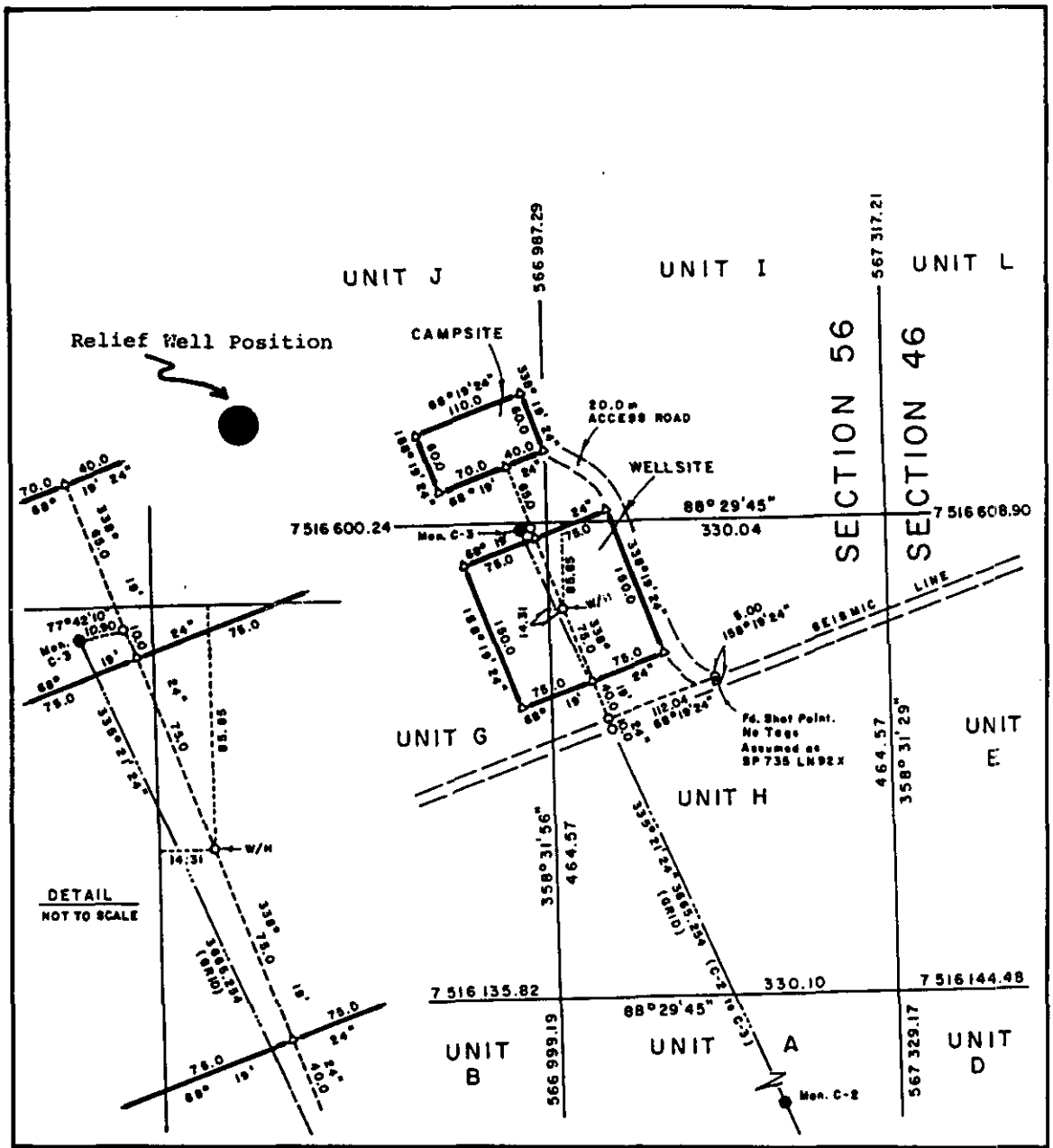
ix) Sidetracked Hole: N/A to this well

x) Drilling Fluid: A stable foam system was used while drilling from 154 - 720 m of the surface hole. The mud type used for the main hole section was VISGEL/ KELZAN XC POLYMER MUD. A saturated salt mud (Nacl concentration 162,000 mg/l) was used while drilling from 1248 - 1605 m of the main hole.

xvi) Abandonment Plugs:

Plug No.	Interval (m)	Type	Cement Additives	Fluid Below
1	1485-1605	Cement Plug	7 tonnes Class "G"	on bottom
2	692 - 742	Cement Plug	4.5 tonnes Class "G" + 2% $CaCl_2$	drilling fluid
3	31 - Surface	Cement Plug	1.8 tonnes Class "G"	drilling fluid

APPENDIX



N.T.S. MAP SHEET: 96 M/14	METRIC	NORTHWEST TERRITORIES

PETRO-CANADA INC.

PRELIMINARY SKETCH SHOWING WELL LOCATION

PCI WESTCOAST K'AHBAMI H-56

UNIT H, SECTION 56, GRID AREA 67° 50', 127° 15'

PETRO-CANADA INC.

CERTIFIED CORRECT:
THIS 2nd. DAY OF FEBRUARY , A.D. 1985.

CANADA LANDS SURVEYOR

ELEVATION	GEOGRAPHIC CO-ORD'S.	U.T.M. CO-ORDINATES
ON GROUND AT WELLHEAD : 297.0	NORTH LATITUDE: 67°45' 27.3851" (67.75760697°) WEST LONGITUDE: 127° 24' 49.4098" (127.41372494°)	NORTHING: 7,516,514.788 EASTING: 567,003.791 CO-ORDINATES ARE COMPUTED FOR ZONE 9 , CENTRAL MERIDIAN 129°W.

LEGEND	AREAS REQUIRED	
Survey Monument found ●	WELLSITE = 5.56 Acres 2.250 ha.	HOSFORD, IMPEY, WELTER AND ASSOCIATES LTD.
Survey Monument placed O	CAMPSITE = 1.63 Acres 0.660 ha.	P.O. BOX 1409, YELLOWKNIFE, X1A 2P1 NORTHWEST TERRITORIES
Traverse Station A	FUEL SITE = —— Acres —— ha.	
SCALE 1:5000	TOTAL = 7.19 Acres 2.910 ha.	FILE NO. Y85001-R2 DATE: Feb. 8/85 ck'd

PETRO-CANADA

PETRO-CANADA
DIRECTIONAL DRILLING PROGRAM

PCI KAHBAMI H-56
Single shot directional survey. File: kahbami
PCI WESTCOAST K'AHBAMI SURVEY PLAN

Measured Depth (meters)	Drift Angle (deg min)	Drift Direction (deg)	Course Length (meters)	True Vertical Depth (meters)	Vertical Section (meters)	Rectangular Co-ordinates (meters)		Closure Distance (meters)	Closure Direction (deg min)	Dogleg Severity (deg/30 M)
0.0	0 0	0	0.0	0.00	0.00	0.00 N	0.00 E	0.00	N 0 0 E	0.00
30.0	0 0	0	30.0	30.00	0.00	0.00 N	0.00 E	0.00	N 0 0 E	0.00
60.0	0 0	0	30.0	60.00	0.00	0.00 N	0.00 E	0.00	N 0 0 E	0.00
90.0	0 18	N 14 E	30.0	90.00	0.00	0.08 N	0.02 E	0.08	N 13 60 E	0.30
120.0	0 24	N 50 E	30.0	120.00	0.00	0.19 N	0.16 E	0.25	N 39 22 E	0.24
150.0	0 24	N 49 E	30.0	150.00	0.00	0.33 N	0.32 E	0.46	N 43 59 E	0.00
180.0	0 18	N 62 E	30.0	180.00	0.00	0.43 N	0.47 E	0.64	N 47 15 E	0.13
210.0	0 18	N 59 E	30.0	210.00	0.00	0.51 N	0.60 E	0.79	N 49 52 E	0.02
240.0	0 21	N 59 E	30.0	240.00	0.00	0.60 N	0.75 E	0.96	N 51 28 E	0.05
270.0	0 18	N 46 E	30.0	270.00	0.00	0.70 N	0.89 E	1.13	N 51 38 E	0.09
300.0	0 0	0	30.0	300.00	0.00	0.76 N	0.94 E	1.21	N 51 16 E	0.30
330.0	0 15	N 10 W	30.0	330.00	0.00	0.82 N	0.93 E	1.24	N 48 38 E	0.25
360.0	0 18	N 17 W	30.0	360.00	0.00	0.96 N	0.90 E	1.31	N 42 57 E	0.06
390.0	0 21	N 3 E	30.0	390.00	0.00	1.13 N	0.88 E	1.43	N 37 45 E	0.12
420.0	0 21	N 3 E	30.0	420.00	0.00	1.31 N	0.89 E	1.58	N 33 58 E	0.00
450.0	0 15	N 7 W	30.0	449.99	0.00	1.47 N	0.88 E	1.71	N 30 51 E	0.11
480.0	0 6	N 15 W	30.0	479.99	0.00	1.56 N	0.86 E	1.78	N 28 55 E	0.15
510.0	0 12	N 7 W	30.0	509.99	0.00	1.64 N	0.85 E	1.84	N 27 22 E	0.10
540.0	0 0	0	30.0	539.99	0.00	1.69 N	0.84 E	1.89	N 26 28 E	0.20
570.0	0 21	N 27 W	30.0	569.99	0.00	1.77 N	0.80 E	1.94	N 24 18 E	0.35
600.0	0 27	N 33 W	30.0	599.99	0.00	1.95 N	0.69 E	2.07	N 19 36 E	0.11
630.0	0 33	N 40 W	30.0	629.99	0.00	2.16 N	0.54 E	2.23	N 13 60 E	0.12
660.0	0 27	N 43 W	30.0	659.99	0.00	2.36 N	0.37 E	2.39	N 8 48 E	0.10
690.0	0 15	N 55 W	30.0	689.99	0.00	2.48 N	0.23 E	2.49	N 5 13 E	0.21
715.0	0 24	N 47 W	25.0	714.99	0.00	2.57 N	0.12 E	2.57	N 2 35 E	0.18
789.0	1 0	N 88 E	74.0	788.98	0.00	3.23 N	0.36 E	3.25	N 6 26 E	0.53
856.0	0 30	S 37 E	67.0	855.98	0.00	2.87 N	1.13 E	3.08	N 21 25 E	0.37
914.0	1 0	N 38 W	58.0	913.97	0.00	2.57 N	0.74 E	2.68	N 16 3 E	0.78
974.0	0 30	S 17 W	60.0	973.97	0.00	2.46 N	0.11 E	2.46	N 2 37 E	0.68
1037.0	0 30	S 57 E	63.0	1036.97	0.00	1.98 N	0.29 E	2.00	N 8 17 E	0.29
1096.0	0 15	N 54 W	59.0	1095.96	0.00	2.18 N	0.43 E	2.22	N 11 8 E	0.38
1172.0	1 0	N 19 W	76.0	1171.96	0.00	2.84 N	0.06 W	2.84	N 1 8 W	0.32
1231.0	1 0	N 62 W	59.0	1230.95	0.00	3.60 N	0.71 W	3.67	N 11 8 W	0.37
1288.0	0 30	S 50 W	57.0	1287.94	0.00	3.53 N	1.41 W	3.80	N 21 45 W	0.49
1346.0	0 30	S 55 W	58.0	1345.94	0.00	3.22 N	1.81 W	3.69	N 29 20 W	0.02

Measured Depth (meters)	Drift Angle (deg min)	Drift Direction (deg)	Course Length (meters)	True Vertical Depth (meters)	Vertical Section (meters)	Rectangular Co-ordinates (meters)	Closure Distance (meters)	Closure Direction (deg min)	Dogleg Severity (deg/30 M)
1422.0	0 0	0	76.0	1421.94	0.00	3.03 N 2.06 W	3.68	N 34 28 W	0.20
1498.0	0 45	N 32 W	76.0	1497.94	0.00	3.45 N 2.34 W	4.17	N 34 11 W	0.30
1591.0	1 0	N 43 W	93.0	1590.93	0.00	4.58 N 3.21 W	5.59	N 35 1 W	0.16

Based upon Radius of Curvature calculations except in cases of no change in Drift Direction or Drift Angle. In those cases Angle Averaging method has been used.

There is no Vertical Section as Target Bottom Hole Co-ordinates were 0.00 N 0.00 E.