

FINAL WELL REPORT

APACHE CANADA LTD.

APACHE PARAMOUNT WEST NOGHA K-14

Grid Area 66 deg 40 ' , 126 deg 00 '

DATE: Oct. 15, 2004

COMPANY REPRESENTATIVE: Greg D. Hladun

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A. INTRODUCTION

Apache Canada Ltd. In partnership with Paramount Resources Ltd drilled a 1404 meter exploratory well spudded on February 2, 2004 at 10:00 hours and finishing on March 21, 2004 at 24:00 hours to evaluate gas potential in the Mt. Clarke formation at a depth of 1292 to 1312mKB.

The drilling contractor was Akita Drilling Rig #51 based out of Calgary, Alberta. The drilling rig used was a conventional land rig. The rig had a 58m³ mud system and was equipped with two boilers. The well was drilled on Exploration License No 2006. Operating License No 2006 was issued to Apache Canada Ltd. on January 14, 2004. The well is located on Sahtu Settlement Lands, Block K-14.

The well is located approximately 60 km south of Colville Lake. The exact co-ordinates of the well (in NAD 27) are as follows:

Latitude: 66 deg 33', 39.092"
Longitude: 126 deg, 03', 02.842"

The co-ordinates in NAD 83 are as follows:

Latitude: 66 deg 33' 39.512 "

Longitude: 126 deg, 3' 9.959 "

Using an rat hole rig from OK Drilling, the conductor hole was started on February 2, 2004 at 10:00 hours. The hole was drilled to a depth of 65m. The conductor hole was air drilled with a 445 mm bit. Using the rat hole rig to drill the mousehole, rathole and conductor hole took a total of three days. The conductor hole was dolomite with some limestone. The 339.7 mm X 101.71kg/m K-55, BT&C conductor pipe was set with the shoe depth at 65 m. The conductor pipe was cemented with 7.4m³(10 tonnes) of Artic Set cement + 0.5%D065 + 0.2%D046 + 1.0%D013. Cement was displaced with 4.8m³ fresh water. Good returns were obtained throughout the cement job and 4.0 m³ returns of cement were obtained..

The rig began moving and rigging up on Feb 27, 2004. On February 29, 2004 the diverter was installed and function tested.

The conductor shoe was then drilled out and the 311 mm surface hole was spudded on March 1, 2004 at 21:45 hours using a directional drilling assembly and a water based gel mud. The 311 mm hole was drilled ahead to 247m where partial circulation was lost. A total of 22m³ lost circulation material was pumped, but only partial returns could be achieved. The hole was then drilled to 251m and another 22m³ of LCM was pumped. At this point returns were approximately 50%. The drillstring was tripped out of hole and the directional tools were laid down. A slick drillstring was tripped in hole and another 15m³ of LCM was pumped. The well was drilled ahead to 277m with approximately 90% returns. Complete circulation was lost at 277m. The well was drilled blind from 277-548 m while pumping LCM sweeps. Once at T.D. a 26m³ LCM pill was pumped and the drillstring was tripped out to run casing.

A total of 39 joints of new Ipsco 244.5mm, 59.53kg/m, L-80 casing was run to 548m with cement baskets at 50m intervals. The casing was cemented with 24 tonnes 0-1-0 class "G" at 1900kg/m³ and displaced with 21.2m³ of fresh water. The plug was down at 19:25 hours March 9, 2004. There were no returns on the cementing job. The casing annulus was cemented from surface through 25.4mm pipe with 8 tonnes Artic set cement at 1880kg/m³. No returns were obtained. The rig waited on cement for 4 hours. The annulus was topped-up through 25.4mm pipe consisting of 12 tonnes Artic set cement slurry at 1880kg/m³. One m³ of good cement returns was obtained at surface. The rig waited 5 hours on cement.

A Cameron Slip lock type IC-2 11"x 9 5/8" 21000kPa casing bowl was then installed and the BOP was nipped up. The BOP and related equipment was then pressure tested to 1500kPa low and 21000kPa high. The directional assembly was tripped in with a 216mm drill bit.

The casing was drilled out and a 216mm hole was drilled from 548- 552 m. The bit was tripped and the hole was drilled from 552-561m KB. The hole was displaced to a Distillate 822 oil mud

system. The 216mm hole was drilled from 561-1344m. At 1344 m the hole was circulated and the mud weight was raised from 1150kg/m³ to 1210kg/m³. The hole was then drilled from 1344m to a total depth of 1404mKB with a 1230kg/m mud weight. TD was reached at 16:30 hours March 18, 2004. The well was circulated to condition the mud and hole before tripping out.

Schlumberger was rigged in and the hole was logged. Log #1 was an AIT/TLD/CNL/GR/XY CAL from 1404-548m. Log #2 was a DSI/EMS/GR from 1404-548m. Log #3 was a VSP. A drillstring was tripped in and the hole was conditioned for casing. The drillpipe was laid down in preparation for running casing.

A total of 113 joints of new 177.8mm 43.16kg/m L-80 LT&C Ipsco casing was run complete with a float shoe and float collar. The casing was landed at 1404mKB. The hole was conditioned and then cemented with 23.5m³ (30 tonnes) class "G" + 0.5%D065 + 0.2%D046 + 0.3%D167 slurry and displaced w/26.9m³ fresh water. A total of 4.0m³ of good cement returns were obtained. Plug down was 00:30 hours March 21, 2004. The floats held. The rig then rigged out the BOP, set slips the slips and installed the wellhead.

The rig was released at 24:00 hours March 21, 2004.

B. GENERAL DATA

1. Well Name: Apache Paramount West Nogha K-14

Authority to Drill a Well #: 2006

Exploration Agreement Number: Sahtu Settlement Lands Block K-14

Location: Unit: K Section: 14

Grid Area: 66 deg 40' 126 deg 00 '

Classification: Exploration

2. Well Location Area: Nohga
Coordinates (NAD 27) Latitude: 66 deg 33' 39.092"
Longitude: 126 deg 03' 02.842 "
3. Unique Well Identifier: 300K146640126000
4. Operator: Apache Canada Ltd. in conjunction with Paramount Resources Ltd
5. Contractor: Akita Drilling Ltd.
6. Drilling Unit: Rig #51
7. Position Keeping: Not Applicable, Land Rig
8. Support Craft: Trucking via Winter Road from Norman Wells / Fort Good Hope
9. Drilling Unit Performance: Surface spud to T.D. in 18 days
10. Difficulties and Delays:
 - two days to drill rat hole, mouse hole and conductor with rathole drilling rig in solid dolomite to 65m.
 - Severe lost circulation from 247 m to 548 m.
11. Total Well Cost: \$ 5.0 M
12. Vertical well controlled with directional drilling equipment.

C. SUMMARY OF DRILLING OPERATIONS

1. Elevations:
 - Ground 308.0 m above sea level
 - KB: 313.2 m above sea level
 - KB To Casing Flange: 2.8 m

2. Total Depth:
FTD: 1404.0 m KB
PBD: 1390.6.0m KB
TVD: 1404.0m KB
3. Date and Hour Conductor Spudded: Feb.2, 2004, 10:00 hrs
Surface Spudded Mar.1, 2004, 21:45 hrs
4. Date Drilling Completed: Mar 18, 2004, 16:30 hrs
5. Date of Rig Release: March 21, 2004, 24:00 hrs
6. Well status: Completed
7. Hole Sizes and Depths:
Conductor Hole: 445 mm to 65 m KB
Surface Hole: 311 mm to 548.0 m KB
Main Hole: 216 mm to 1404.0 m KB
8. Casing and Cementing Record:
Conductor Hole:
Casing Size: 339.7 mm
Casing Weight: 101kg/m
Casing Grade: K-55
Casing Make: Ipsco
Number of Joints: 2
Thread: BT&C
Depth Set: 65 m (KB)
Cut Height: At Surface
Cut off Depth: At Surface
Date Set: February 2, 2004
Cement Volume: 10 Tonnes (8m3)
Cement Type: Artic Set
Additives: 0.5% D065 + 0.2% D046 + 1.0% D013

Surface Hole:
Casing Size: 244.5 mm
Casing Weight: 59.53 kg/m
Casing Grade: L-80
Casing Make: Ipsco
Number of Joints: 39
Thread: LT&C

Depth Set: 548.0 m (KB)
 Cut Height: At Surface
 Date Set: Mar 9, 2004
 Cement Volume: 24 tonnes
 Float Shoe Depth: 532.75m
 Cut Off Depth: Surface
 Cement Type: 24 tonnes 0:1:0 class "G" @ 1900kPa/m
 8 tonnes Artic set (top fill)
 12 tonnes Artic set (top fill)
 Additives: Arctic Set
 0.5% D-56 TIC
 0.2% D-13
 Class G
 2.0% CaCl₂
 Cement Top: Surface (m KB)
 Casing Bowl Size: 279 mm X 244.5 mm X 21 MPa
 Casing Bowl Make: Cameron Slip Lock Type IC-2

Production Hole:

Casing Size: 177.8 mm
 Casing Weight: 43.16 kg/m
 Casing Grade: L-80
 Casing Make: Ipsco
 Number of Joints: 113
 Thread: LT&C
 Depth Set: 1404.0 m (KB)
 Cut Height: At Surface
 Date Set: Mar 20, 2004
 Cement Volume: 23.5 m³
 Float Shoe Depth: 1404.0 m
 Float Collar Depth: (Top) 1390.5.0m
 Cut Off Depth: Surface
 Cement Type: 23.5m³ Class "G"
 Additives: 0.5% D065
 0.3% D0167
 0.2% D046
 Cement Top: Surface
 Returns: 4.0m³

9. Sidetracked Hole: N/A

10. Drilling Fluid:

Conductor Hole: Air
 Properties:
 Viscosity:

Weight:
PH:
Gels:
PV / YP:

Surface Hole: Gel – Chemical/Water

Properties:

Viscosity: 50 sec/L
Weight: 1080 kg/m³
PH: 12.0
Gels: 8.0 / 16.0
PV / YP: 6 / 21.0

Main: Distillate 822

Properties:

Viscosity: 160 sec/L
Weight: 1160 kg/m³
PH: 7.0
Water loss: 3.0 cc
Solids: 15.0
Gels: 5 / 7
Filter Cake: 1.0
PV / YP: 32.0 / 10

11. Fishing Operations: N/A

12. Well Kicks and Well Control Operations: Raised mud density to 1200sec/L to control influx at 1344m.

13. Formation Leak- off Tests: No test performed

Depth: m
Fluid Density: 1000 kg/m³

14. Time Distribution:

Nohga K-14		
Date	Time	Activity
Feb 2, 2004	11:00-24:00 hrs	Rigged in and spudded 445 mm conductor hole with OK Rathole rig at 11:00 hours Feb 2, 2004.
Feb 3, 2004	00:00-24:00 hrs	Set 2 joints of 339.7mm 101.2kg/m K-55 LT&C new Ipsco casing. Landed at 65m. Cemented with 10m ³ Artic set slurry at 1880kg/m ³ . 3.0m ³

		good returns. Move rig off location.
Feb 27, 2004	00:00-24:00 hrs	Moved Akita Drilling rig #51 to location from Manoir C-34 location.
Feb 28, 2004	00:00-24:00 hrs	Rigged up
Feb 29, 2004	00:00-24:00 hrs	Rigged up. Installed Diverter.
Mar 1, 2004	00:00-19:00 hrs	Picked up tools and pressure tested diverter.
	19:00-24:00 hrs	Drilled out conductor and drilled 311mm hole f/65-69m. Spudded at 21:45 hrs Mar 1, 2004.
Mar 2, 2004	00:00-24:00 hrs	Drilled f/69-139m
Mar 3, 2004	00:00-24:00 hrs	Drilled f/139-236m
Mar 4, 2004	00:00-03:15 hrs	Drilled f/236-249m. Started losing circulation at 247m. 50% losses
	03:15-08:45 hrs	Mixed and pumped 22m3 LCM pill. Drilled f/249-251m. Pumped 22m3 LCM pill.
	08:45-24:00 hrs	Tripped out of hole for BHA. Tripped in and pumped 15m3 LCM pill. Drilled ahead with 90% returns from 251-277m. 100% lost circulation at 277m
Mar 5, 2004	00:00-24:00 hrs	Drilled blind f/277-363m. Pumped LCM sweeps while drilling.
Mar 6, 2004	00:00-24:00 hrs	Drilled blind f/363-461m while pumping LCM sweeps at 25m intervals.
Mar 7, 2004	00:00-11:30 hrs	Drilled blind f/461-493m while pumping LCM sweeps at 25m intervals.
	11:30-20:45 hrs	Tripped for bit and reamed under gauge hole from 467-493m.
	20:45-24:00 hrs	Drilled blind f/493-501m
Mar 8, 2004	00:00-18:15 hrs	Drilled blind f/501-548m.
	18:15-24:00 hrs	Conditioned hole and spotted a 26m3 LCM pill. Tripped out of hole to run casing
Mar 9, 2004	00:00-05:00 hrs	Ran 39 joints of new Ipsco 244.5mm, 59.53kg/m, L-80

		ST&C casing. Total length 548.87m. Landed at 548.0m
	05:00-18:00 hrs	Circulated and conditioned hole
	18:00-21:00 hrs	Cemented casing w/24 tonnes 0:1:0 class"G" Cement slurry at 1900kg/m3. Plug down at 19:25 hours. No returns. Top filled annulus w/ 8 tonnes Artic set cement at 1880kg/m3 through 25.4mm pipe. No returns
	21:00-24:00 hrs	Waited on cement
Mar 10, 2004	00:00-03:00 hrs	Waited on cement
	03:00-10:00 hrs	Ran second top fill cement job w/12 tonne Artic set cement through 25.4mm pipe. 1m3 good cement returns. Waited 5 hours on cement
	10:00-24:00 hrs	Cut casing and installed Cameron Slip Lock type IC-2 slip on casing bowl. Pressure tested.
Mar 11, 2004	00:00-08:00 hrs	Tripped in hole and pressure tested BOP's and related equipment to 1500kPa low and 14000kPa high.
	08:00-10:30 hrs	Drilled out and drilled 216mm hole f/548-552m.
	10:30-22:30 hrs	Tripped for bit and drilled f/552-561m
	22:30-24:00 hrs	Displaced hole f/ water to Distillate 822 oil system.
Mar 12, 2004	00:00-24:00 hrs	Finished displacing hole to oil and drilled 216mm hole f/561-653m
Mar 13, 2004	00:00-24:00 hrs	Drilled f/653-755m
Mar 14, 2004	00:00-24:00 hrs	Drilled f/755-786m. Tripped for bit. Drilled f/786-857m
Mar 15, 2004	00:00-24:00 hrs	Drilled 216mm hole f/857-1190m
Mar 16, 2004	00:00-22:45 hrs	Drilled f/1190-1344m
	22:45-24:00 hrs	Flow checked and conditioned mud to raise weight f/1165-1200kg/m3

Mar 17, 2004	00:00-12:30 hrs	Tripped for bit and directional tools.
	12:30-24:00 hrs	Drilled f/1344-1370m
Mar 18, 2004	00:00-16:30 hrs	Drilled f/1370- 1404m. TD at 16:30 hours March 18, 2004
	16:30-24:00 hrs	Conditioned hole and tripped out to log
Mar 19, 2004	00:00-03:30 hrs	Tripped out of hole
	03:30-20:00 hrs	Rigged up and logged w/Schlumberger wire line unit. Run #1 was AIT/TLD/GR/CNL/XY Cal. Run #2 was DSI/EMS. Run #3 was VSP. All logs 1404-548m
	20:00-24:00 hrs	Tripped in and conditioned hole
Mar 20, 2004	00:00-11:00 hrs	Conditioned hole and layed down drill pipe.
	11:00-19:45 hrs	Ran 113 joints of new Ipsco 177.8mm, 43.16kg/m, L-80, ST&C Casing. Total length of 1404.39m. Landed at 1404mKB.
	19:45-24:00 hrs	Conditioned hole and cemented w/30tonnes (23.5m3) Class"G" + 0.5%D065 + 0.2%D046 + 0.3%D167. 4m3 good cement returns.
Mar 21, 2004	00:00-00:30 hrs	Cemented casing
	00:30-09:00 hrs	Rigged out BOP's, installed and pressure tested wellhead
	09:30-24:00 hrs	Rigged out. Rig was released at 24:00 hours Mar. 21, 2004
Mar 22, 2004	00:00-24:00 hrs	Rigged out

Time Break Down

Operation	Scheduled		Trouble	
	Hours	%	Hours	%
Rig Move	136.50	20.83		
Drilling	259.25	39.57		
Circulating	27.25	4.16		
Tripping	48.25	7.36		
Directional/Survey	13.75	2.10		

PU/LD DP/DC/TBG	14.25	2.17		
Reaming/Tight Hole	3.50	0.53		
Logging & FEWD	16.50	2.52		
Run Csg/ RU & RD/ Test Csg	15.00	2.29		
Cementing	7.00	1.07		
Drill out Cement	3.50	0.53		
NU/ND/BOP Test/Drill	37.50	5.72		
Wait on Cement	11.00	1.68		
Rig Repair	3.75	0.57		
Rig Maintenance	11.00	1.68		
WOO/Tools	4.75	0.72		
Safety Meeting	3.75	0.57		
Other	38.75	5.91		
Total	655.25	100	0.00	100

15. Deviation Survey: The bottom hole location is within 30 m of bottom hole coordinates.
1.23m S, 5.14m E (From well centre)
16. Abandonment Plugs: N/A
17. Composite Well Record: **See attached Well Logs**
18. Completion Record:
Start Date: March 29, 2004
Finish Date: April 7, 2004
Contractor: Nabors 203

Completion Summary: See attached completions results

Final Well Configuration: See attached Stick Diagram

D: GEOLOGY

Geological Summary

Tops: See attached Geological Report summary.

SAMPLE DESCRIPTIONS: See attached Geological Report

CORING RECORD: No coring performed.

GAS DETECTION REPORT: See attached Strip Log w/Geological report

DRILL STEM TESTS: No DST's performed.

WELL EVALUATION: Refer to Geological Report for more detail.

The following logs were run: (Example depths)

AIT/TLD/CNL/LDT/GR	1404m – 548m
DSI/EMS/GR :	1404m – 548 m
VSP	

Hydrocarbon well log attached: See geological report

ANALYSES

MUD SALINITY: This well was drilled with Distillate 822 oil base system
No further tests were conducted

GAS, OIL, & WATER ANALYSES: No additional fluid analyses were conducted
on this well

FORMATION STIMULATION: See attached Post Job Frac Analyses:

FORMATION AND TEST RESULTS: See attached Completion reports

DETAILED TEST PRESSURE DATA READINGS: See attached subsurface
pressure reports.

E. ENVIRONMENTAL WELL ANALYSIS.

The surface hole cuttings were disposed of via the mix-bury-cover method in an on-site sump. This was possible because a water based mud was used. The production hole was drilled with a distillate-based mud and contained salt from the naturally occurring salt formation that was drilled in the production hole. The production hole cuttings, which contained distillate and salt were mixed with sawdust, transported to Alberta by truck and barge and were disposed of in a licensed waste disposal facility. The total amount of cuttings to be transported was 138.92 tonnes of drill cuttings mixed with sawdust.

In addition, fluid was derived from snow melt obtained from scraping the lease. The amount of fluid disposed of was 143.8 m³. This fluid was also trucked and barged to Alberta and disposed of in a licensed waste disposal facility.

F. APPENDICES TO WELL HISTORY

Geological Report

Bit Summary

Completion report

Tour Sheets

Surface Survey