Methane Hydrate Production from Alaskan Permafrost

Drilling and Coring Operations

Topical Report

January 28, 2003 to March 19, 2004

by

Ali Kadaster (Anadarko Petroleum Corp.) Bill Liddell (Anadarko Petroleum Corp.) Tommy Thompson (Anadarko Petroleum Corp.) Thomas Williams (Maurer Technology Inc.) Michael Niedermayr (Noble Engineering and Development)

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Anadarko Petroleum Corp. 1201 Lake Robbins Drive The Woodlands, Texas 77380

Maurer Technology Inc. 13135 South Dairy Ashford, Suite 800 Sugar Land, Texas 77478

Noble Engineering and Development, Ltd. 13135 South Dairy Ashford, Suite 800 Sugar Land, Texas 77478

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Abstract

Natural-gas hydrates have been encountered beneath the permafrost and considered a nuisance by the oil and gas industry for years. Engineers working in Russia, Canada and the USA have documented numerous drilling problems, including kicks and uncontrolled gas releases, in arctic regions. Information has been generated in laboratory studies pertaining to the extent, volume, chemistry and phase behavior of gas hydrates. Scientists studying hydrate potential agree that the potential is great – on the North Slope of Alaska alone, it has been estimated at 590 TCF. However, little information has been obtained on physical samples taken from actual rock containing hydrates.

This gas-hydrate project was a cost-shared partnership between Maurer Technology, Noble Corporation, Anadarko Petroleum, and the U.S. Department of Energy's Methane Hydrate R&D program. The purpose of the project is to build on previous and ongoing R&D in the area of onshore hydrate deposition to identify, quantify and predict production potential for hydrates located on the North Slope of Alaska.

The work scope included drilling and coring a well (Hot Ice No. 1) on Anadarko leases beginning in FY 2003 and completed in 2004. During the first drilling season, operations were conducted at the site between January 28, 2003 to April 30, 2003. The well was spudded and drilled to a depth of 1403 ft. Due to the onset of warmer weather, work was then suspended for the season. Operations at the site were continued after the tundra was re-opened the following season. Between January 12, 2004 and March 19, 2004, the well was drilled and cored to a final depth of 2300 ft.

An on-site core analysis laboratory was built and implemented for determining physical characteristics of the hydrates and surrounding rock. The well was drilled from a new Anadarko Arctic Platform that has a minimal footprint and environmental impact. Final efforts of the project are to correlate geology, geophysics, logs, and drilling and production data and provide this information to scientists developing reservoir models and to research teams for developing future gas-hydrate projects.

No gas hydrates were encountered in this well; however, a wealth of information was generated and has been documented by the project team. This Topical Report documents drilling and coring operations and other daily activities.

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1. Introduction

The Hot Ice gas-hydrate project was a cost-shared partnership between Maurer Technology, Noble Corporation, Anadarko Petroleum, and the U.S. Department of Energy's Methane Hydrate R&D program. The purpose of this project is to plan, design and implement a program that will safely and economically drill/core and produce natural gas from arctic hydrates. This project has documented planning, operations and lessons learned to assist in future hydrate research and field operations to make an objective technical and economic assessment of this promising natural gas reservoir potential.

On February 7, 2004 the Hot Ice No. 1 well was drilled to a total depth of 2300 ft, about 300 ft below the zone where temperature and pressure conditions would permit hydrates to exist (i.e., the hydrate stability zone). Although significant gas shows were encountered in highly porous sandstones, no methane hydrates were found. The continuous coring rig used in the project proved to be a safe and efficient drilling system, with 93% of the core recovered.

The well was drilled from a special low-impact, purpose-built arctic platform (**Figure 1**). Tests were conducted on platform leg stability (see **Appendix C** and **Appendix D**). Details of platform installation and operation were reported by Kadaster and Millheim (2004). This project also made use of a highly capable on-site Mobile Core Laboratory (**Figure 2**) to analyze cores immediately after retrieval from the well. Live data and images were also transmitted from the rig over the internet, which reduced the number of engineers and scientists required to oversee the project. A massive 3D VSP seismic survey was conducted to investigate lateral variations of the potential hydrate reservoir. Results of the VSP and analysis are described in a separate Topical Report.



Figure 1. Arctic Drilling Platform

Field operations at Hot Ice No. 1 commenced on January 18, 2003, with the mobilization of the construction crews. Previously, platform leg loading tests had been conducted in Deadhorse,

Alaska during October-November 2002. Platform installation began on January 29 and was completed on February 26, 2003, taking a total of 28 days versus 20 days planned.



Figure 2. Overhead View of Coring Rig (red rig mast was covered during operations) and Mobile Core Laboratory (four blue modules at bottom)

After TD was reached in February 2004, the well was abandoned. Demobilization of the arctic platform and complete remediation of the site was completed on March 11, 2004.

2. Experimental

2.1 Task Statement

This Topical Report presents results for Task 9 from the hydrate project. Results for other tasks are described in companion Topical Reports and the Final Report. The complete Statement of Work for Task 9 is presented below.

Task 9.0 – Drilling and Coring

The project team shall winterize the drill rig, and mobilize it to Deadhorse and then to the well location. The project team shall drill and core one or more wells from the ice pad or arctic platform.

Subtask 9.1 – Environmental Health and Safety

The project team shall monitor and respond to environmental health and safety concerns, including monitoring and manifesting waste, in order to ensure compliance with regulations specified in permits.

Subtask 9.2 – Drilling and Coring

The project team shall drill and core one or more wells from the ice pad or arctic platform constructed in Subtask 8.2. The project team shall use the Noble Engineering and Development Drill Smart System to allow engineers to monitor and view drilling operations live from Houston.

Subtask 9.3 – Maintain Camp Facilities

The project team shall provide camp facilities to house and feed the crews rotating on a 12/12 shift schedule.

Subtask 9.4 – Transportation of Drilling Supplies

The project team shall transport by trucks and Rolligons personnel, equipment, and supplies used in the drilling operations, including drilling fluids and drilling mud.

Subtask 9.5 – Arctic Platform

The Anadarko Arctic Platform will be constructed and tested in Houston, Texas. The structure will be made of lightweight aluminum. It will be mobilized to the base camp in December where it will be inspected prior to mobilization to the well location. The legs will be tested and put on location as soon as the freeze period begins in January. The legs will be installed into the tundra permafrost and frozen into place. The platform will be mobilized by either helicopter and/or Rolligon from the base camp and assembled in February on the legs at the well location. Environmental monitoring equipment will also be installed.

The drilling area will be 100×100 ft (30.5×30.5 m) and the base camp will be 70×50 ft (21.3×15.2 m) connected by a walkway. The rig, equipment and base camp will be installed on the platform by helicopter and/or Rolligon and a crane that will be installed on the platform. After completion of drilling and completion operations, some of the equipment will be demobilized, with the remainder staying until the well testing has been completed. The entire platform will be demobilized to Dead Horse. The platform will be thoroughly inspected by a third party and a post-analysis study will be conducted with recommendations on future operations.

3. Results and Discussion

3.1 Summary Results for Drilling and Coring Tasks

A brief summary of results for each subtask under Task 9 is presented in this section. More detail is provided later in this chapter.

Subtask 9.1 – Environmental Health and Safety

The team monitored and responded to environmental health and safety concerns, including monitoring and manifesting waste, to ensure compliance with regulations specified in permits. The safety record during the operation was excellent. More details are presented in Section 3.6.

Subtask 9.2 – Drilling and Coring

The team drilled the Hot Ice No. 1 well from the innovative Arctic Platform constructed in Subtask 8.2. The team used chilled drilling fluids and monitored the downhole temperature and inclination using a tool provided by Sandia National Lab. The team used the Noble Engineering and Development Drill Smart System to allow engineers to monitor and view drilling operations live from Houston. Because of unseasonably warm weather, the team was unable to complete the drilling program as originally scheduled during the Spring of 2003. The team resumed and completed drilling operations during the Winter 2004 drilling season.

Subtask 9.3 – Maintain Camp Facilities

The team provided camp facilities to house and feed the crews rotating on a 12/12 shift schedule.

Subtask 9.4 – Transportation of Drilling Supplies

For the first drilling season during 2003, no road was constructed to the site. The team transported by trucks and Rolligons personnel, equipment, and supplies that were used in the drilling operations, including drilling fluids and drilling mud. For the winter 2004 season, the team constructed a new ice road to facilitate mobilization of equipment, supplies, and personnel to the Hot Ice No. 1 site to complete drilling and coring operations.

Subtask 9.5 – Arctic Platform

The Anadarko Arctic Platform was constructed as a zero-discharge facility and tested in Houston, Texas. The structure is made of lightweight aluminum. It was mobilized to the base camp in January 2003, and inspected prior to mobilization to the well location in February (**Figure 3**). The legs were tested (see **Appendix C** and **Appendix D**) and put on location as soon as the freeze period began in January. A video of the transportation and construction was provided to the DOE. Legs were installed into the tundra permafrost and frozen into place. The platform can be mobilized by either helicopter and/or Rolligon from the base camp and assembled at the well location. Environmental monitoring equipment was also installed.



Figure 3. Arctic Platform at Hot Ice No. 1

The platform drilling area is 100×100 ft (30.5×30.5 m) and the base camp is 62.5×50 ft (19.1×15.2 m) on an adjacent platform. The rig, equipment and base camp were installed on the platform by Rolligon and two cranes. At the conclusion of drilling and completion operations, the equipment was demobilized as designed. After clean-up, there was no adverse environmental impact at the drill site (**Figure 4**). The entire platform was demobilized to Dead Horse, Alaska. It was thoroughly inspected by a third party and a post-analysis study was conducted with recommendations on future operations.



Figure 4. Final Stage of Platform Removal and Site Remediation

3.2 Well Location and Routes to Site

Location of the Hot Ice No. 1 gas-hydrate well is shown in **Figure 5**. This is a map of the Kuparuk River Unit Operating Center (KRU) and outlying well pads, connected by gravel roads. Also shown are the three permitted locations (three Hot Ice wells were originally planned for the program), with the Hot Ice No. 1 well site indicated.

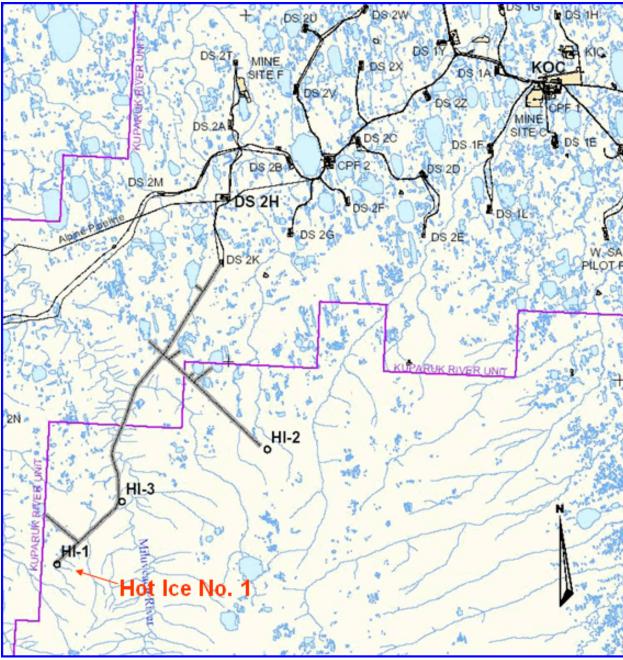


Figure 5. Hot Ice No. 1 Location and 2003 Route

Operations in 2003, including platform construction, topsides assembly, and continuous coring of the well to the intermediate casing point, were conducted "roadless" (without building ice

roads), even though permits were obtained to build ice roads along the route marked on Figure 5 (the heavy lines connecting the Hot Ice locations). All material and personnel were transported over the tundra with Rolligons and Mattrax track equipped pick-up trucks, permitted for use over the tundra. Helicopter trips were limited to medical evacuations (one mild heart attack case occurred) and group visits.

The KRU operator designated the DS-2H well pad as the staging area permitted under the Facilities Sharing Agreement terms. The Hot Ice No. 1 construction camp was established at this staging area and maintained as a supplemental camp for the rest of the 2003 season operations.

The distance from DS-2H to Hot Ice No. 1 was 14 miles, with 12 miles over frozen tundra, starting at the jump-off point at the DS-2K pad. No measurable tundra damage occurred as a result of the 2003 "roadless" operations, demonstrating the viability of such efforts in future locations that may be far removed from the gravel road infrastructure.

The 2004 operations and demobilization of the topsides and platform were carried out over a 4mile ice road constructed from the Tarn-Meltwater field gravel road to the Hot Ice No. 1 well location. This route involved crossing under a power highline, over the Meltwater-KRU pipeline and over two small creeks (**Figure 6**).

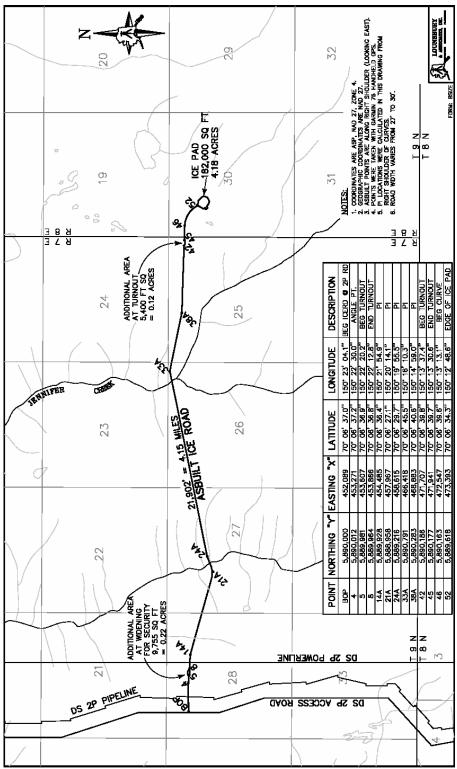


Figure 6. 2004 Ice Road As-Built Survey

The 2004 ice road is shown in Figures 7 and 8.



Figure 7. Ice Road after Maintenance Run



Figure 8. Pipeline Crossing on Ice Road

3.3 Wellbore Operations Summary

Figure 9 shows planned and actual wellbore construction sketches. The 7-in. casing was set slightly deeper than planned, based on actual core recovery and field determination of the base of the permafrost (1400 ft versus 1260 ft). Well operations were suspended in 2003 after the 7-in. casing was set and cemented. Also shown in the figure is that final total depth was reached at 2300 ft during 2004 operations, based on site-specific estimate of the base of the hydrate stability zone compared to the pre-spud estimate of 2600 ft. The wellbore did not intersect any hydrates; therefore, no tests were conducted.

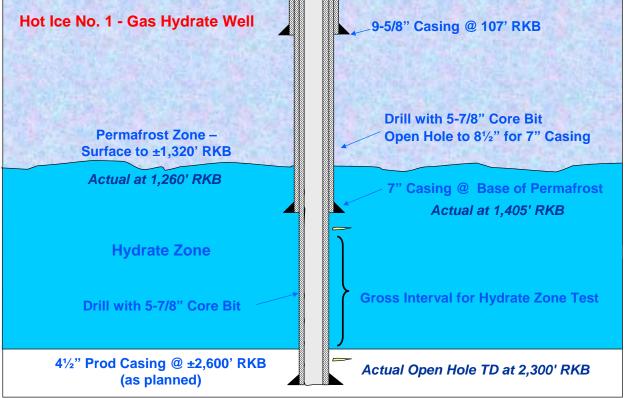


Figure 9. Wellbore Summary

The table below lists key dates during 2003 operations, including the suspension of wellsite operations on April 28, 2003, due to unseasonably warm weather that started thawing the tundra. The 2003 season had a net of 89 field operations days out of 106 gross operational days.

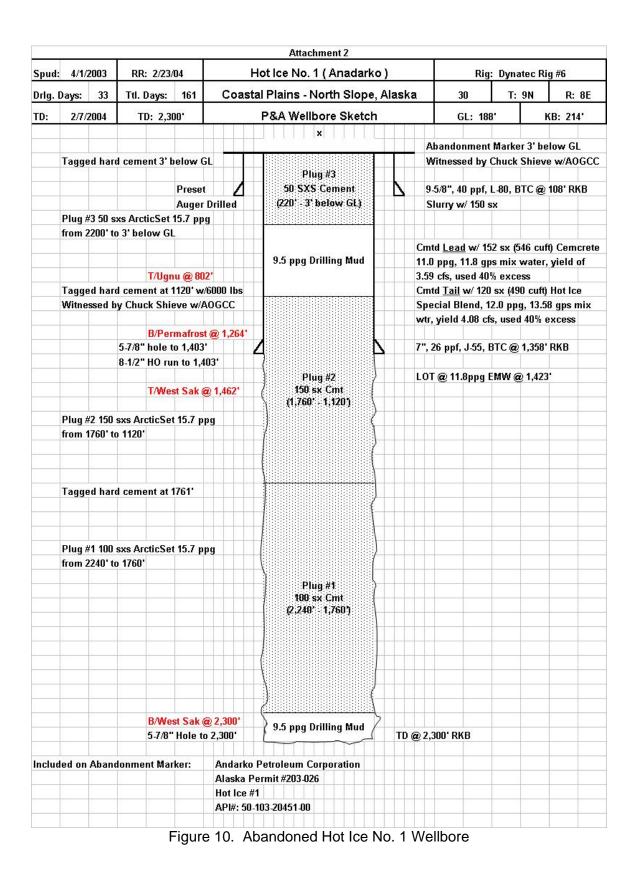
Schedule Highlights for 2003 Operations (Roadless)					
18-Jan-03	Open Deadhorse Office (Tundra open 20 January)				
29-Jan-03	Commence Platform Installation				
26-Feb-03	Platform Installation Complete (28 vs 20 days)				
15-Mar-03 Topsides Installation Complete (17 vs 7 days)					
26-Mar-03 Winterization & Structural Bracing (11 vs 0 days)					
01-Apr-03	Pre-Spud Preparations Complete (6 vs 3 days)				
21-Apr-03	Core to 1405' / Log / Set & Cement 7" (20 vs 15 days)				
28-Apr-03	28-Apr-03 Suspend Field Operations (7 vs 0 days)				
04-May-03	04-May-03 Suspend Deadhorse Operations (7 vs 0 days)				
Operational Days in 2003: 106 (gross) / 89 (net field days)					

Below is a summary of the key 2004 operational timeline. The office at Deadhorse was reopened on January 7, 2004. An ice road was built and pre-spud repairs and rig up completed in 20 days. Coring operations commenced on January 29, 2004. The well was cored from 1400 to 2300 ft, the openhole section logged via wireline and 3D VSP operations conducted.

Schedule Highlights for 2004 Operations (Ice Road)					
07-Jan-04 Opened Deadhorse office (Tundra Opening 09-Jan)					
12-Jan-04	Start Ice Road - Surveyed Road & Pad & Platform				
21-Jan-04	Start Rig-up Activities (Mobilization: 10 vs 9 days)				
29-Jan-04 Resume Coring Operations (Rig-Up: 7 vs 8 days)					
07-Feb-04 Start WL Logging & VSP Phase (Coring 17.5 vs 17 days) 15-Feb-04 Commence Abandonment & Demobilization Phase					
				11-Mar-04	Finish Site Remediation (P&A, Demob: 25.5.vs 38 days)
19-Mar-04 Deadhorse Yard & Office Closed (Wrap-up: 8 vs 10 days)					
Operational Days in 2004: 67 (gross) / 54 (net field days)					
Cumulative Days of Operation : 173 (gross) / 143 (net field days)					

Well abandonment and equipment demobilization operations commenced on February 15, 2004. After wellsite remediation was complete, the location was abandoned on March 11, 2004. Gross operational days in 2004 were 67 with 54 net days in the field. Over the two seasons, there were a total of 173 gross operational days with 143 net field days.

The Hot Ice No. 1 was plugged and abandoned on February 16-17, 2004. The open hole was cemented back into the intermediate casing and a surface cement plug set from below the depth of the conductor pipe to the ground level. Final wellbore status is summarized schematically in **Figure 10**.



During the first drilling season, the well was temporarily shut in and the platform closed on May 19, 2003 due to the arrival of warmer weather. Free water was present under and around the platform (**Figure 11**). Melted snow was present around the remainder of the ice pad.



Figure 11. Arctic Platform at Close of 2003 Drilling Season

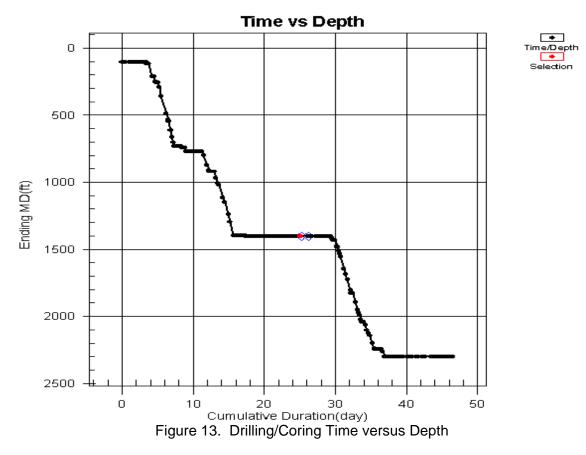
The platform remained in place and was undisturbed during the off-season. **Figure 12** is a photograph of the site taken on July 18, 2003.



Figure 12. Arctic Platform during Summer (July 18, 2003)

3.4 Analysis of Drilling and Coring Time

As stated, the Hot Ice No. 1 gas-hydrate well was drilled and cored to a total depth of 2300 ft (701 m) during two operating seasons. **Figure 13** is the days versus depth curve for the well, showing a total of 47 days, including the casing setting, well evaluation and plug-back times. Days when the well was suspended (summer 2003 to winter 2004) have been excluded.



All activity times are compared in **Figure 14**, including platform construction and topsides installation; coring and evaluation of the well; and dismantling and demobilization of all materials after well abandonment. Rig-up times in 2003 and 2004 account for 54% of total operational days; well coring and evaluation related operations account for 29%; and demobilization time in both seasons consumed 17% of the total time. Initial rig-up times, which account for 43% of total project time, include the learning curve, for the first-ever field installation and usage of the Arctic Platform.

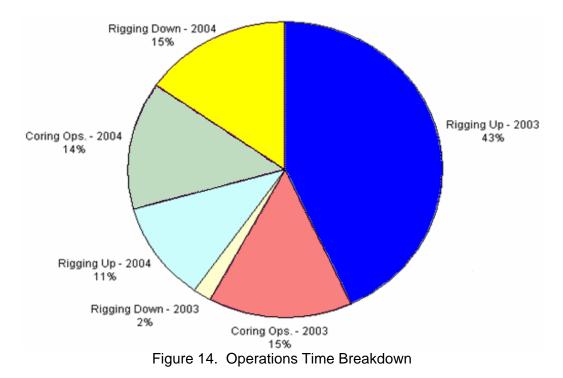
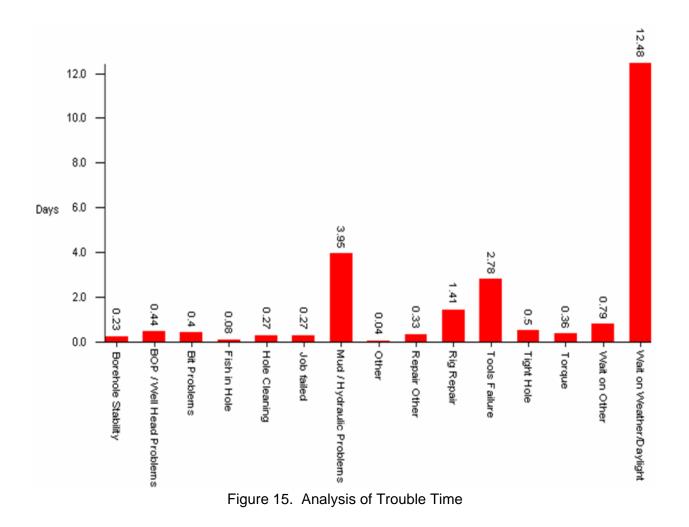


Figure 15 summarizes overall trouble time on this Hot Ice No. 1 well, with weather being the most problematic lost time event (as to be expected) at nearly 12.5 days, followed by drilling fluid/solids control problems at 4 days and tool failures at 3 days. Total lost time was about 24 days, half of which were weather-related.



3.5 Drilling and Coring Operations

Noble's wellsite trend-analysis program (DrillGraph®) was used to compare mud temperatures in and out of the wellbore; depth curves, and flow rates. Mud temperatures in and out of the wellbore were intended to remain in the range of 26 to 32°F (-5 to 0°C).

Figure 16 shows activity on April 6, 2003 when drilling solids and mud foaming/freezing problems brought continuous coring to a halt. Well depth progressed from about 700 to 750 ft (213 to 229 m) with mud temperatures fluctuating erratically, from 21° to 35.5°F, with the mud freezing point about 23°F. The root cause of the problems was traced to a slug of solids that migrated into the mud chiller and plugged one of the three separate cooling systems. Constant foaming problems caused by a transfer pump also contributed to freezing of the mud lines.

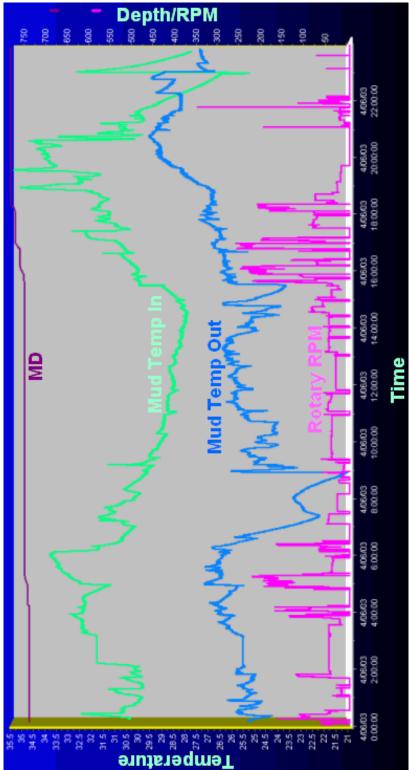


Figure 16. DrillGraph® Data Monitor – Mud Temperature Data (April 6, 2003)

In contrast, **Figure 17** summarizes coring operations on April 12, 2003. All is well at this point. Repairs made to the chiller system and swapping of centrifugal pumps had solved foaming and

freezing problems. Temperatures in and out are in the range of 26-28°F. Continuous coring had progressed from about 1150 to 1300 ft (351 to 396 m).

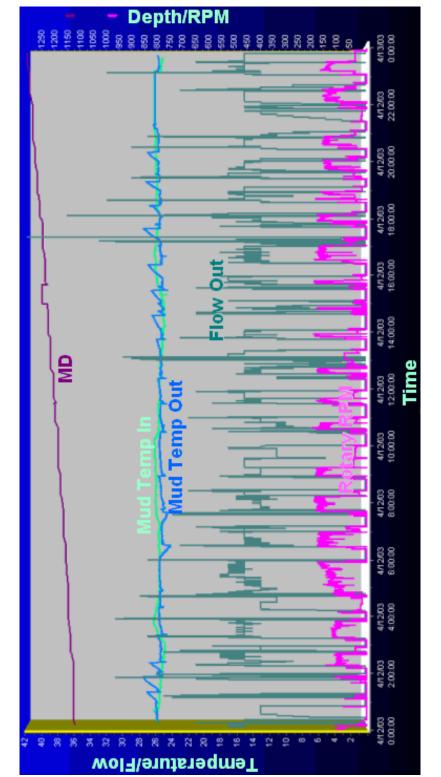


Figure 17. DrillGraph® Data Monitor – Mud Temperature Data (April 12, 2003)

Figure 18 shows removal of the inner split tube from a core recently pulled to the surface and the rig crew assembling the alternate core barrel ready to be dropped into the wellbore when the first core barrel is pulled. **Figure 19** shows various types of core bits on location. The PDC-type core bit shown on the left was used throughout the well.

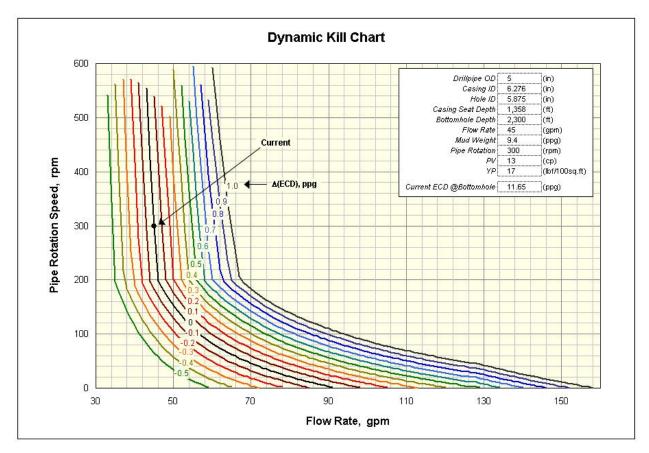


Figure 18. Removing the Split Tube



Figure 19. Core Bits Available for the Operation

The annulus between the core barrel and casing was relatively slim. Slim annuli can complicate well hydraulics design and well control due to the relatively large pressure drop that occurs in the slim annulus. **Figure 20** shows Dynamic Kill charts prepared for a well control procedure in the event that a well kick situation had occurred. As part of this effort, the team used a first-ever



slim-hole well-control program developed by Maurer Technology. The Hot Ice No. 1 was drilled with managed-pressure drilling procedures. A rotary head was used.

GPM	RPM	ECD (ppg)		
Grivi		@ 1358 ft	@ 2300 ft	
60	300	11.59	12.69	
50	300	11.24	12.13	
50	200	11.20	12.08	
40	300	10.92	11.62	
40	200	10.90	11.58	

Figure 20. Dynamic Kill Chart (prepared by Noble Engineering and Development)

All conditions required for the presence or preservation of methane hydrates were encountered; however, no hydrates were encountered. Results of coring analysis are:

- Recovered: 93% of Total Core
- > Geological Model : Proved
- Methane Gas: in Place
- > Free Water: in Place
- Hydrate Stability Temperature: Yes
- > Hydrate Stability Pressure: Yes
- > Hydrates in Place: No

HOT ICE #1 GEOLOGICAL MARKERS March 1, 2004

The following are geological markers or tops that have been identified in core and from logs. Log tops are based on a regional network of correlations. KB = 213.9'

Top of HSZ:	786 MD	- 572 SS
Top of Ugnu:	820 MD	- 606 SS
Base of Permafrost (B/IBPF):	1263 MD	- 1049 SS
Base of Ugnu:	1358 MD	- 1144 SS
Top of West Sak	1463 MD	- 1249 SS
Base of HSZ:	2026 MD	- 1812 SS
Est. Base of West Sak:	2300 MD	- 2086 SS

3.6 Operational Safety

An excellent HSE (Health, Safety and Environmental) record was maintained during the Hot Ice No. 1 drilling operations. The single reportable spill of ½ gallon of fuel in 2003 involved a light plant falling off the back of a Rolligon. The contractor first aid cases were treated in the field. In summary, operations conducted at Hot Ice No. 1 for two drilling seasons were very safe.

Key Performance Indicators – APC Personnel	2003	2004
Fatalities	0	0
First Aid	0	0
Medical Treatment	0	0
Lost-Time Accidents	0	0
Reportable Spills	1	0
Volume Reportable Spills (gal)	0.5	0

Key Performance Indicators – Contractors	2003	2004
Fatalities	0	0
First Aid	4	4
Medical Treatment	2	0
Lost-Time Accidents	0	0
Hours Worked	~73,000	~30,000

4. Conclusions

The work scope for this project included drilling and coring the Hot Ice No. 1 gas-hydrate well on Anadarko leases beginning in FY 2003 and completed in 2004. During the first drilling season (January 28, 2003 to April 30, 2003) the well was spudded and drilled to a depth of 1403 ft (428 m). Due to the onset of warmer weather, work was then suspended for the season. Operations at the site were continued after the tundra was re-opened the following season. Between January 12, 2004 and March 19, 2004, the well was drilled and cored to a final depth of 2300 ft (701 m).

Daily Drilling Reports were completed by personnel at the rig. **Appendix A** includes reports for the 2003 operations season. **Appendix B** includes reports for the 2004 operations season. Project highlights include:

- 1. Arctic Platform functioned very successfully as designed.
 - > Transported by trucks and Rolligons
 - Assembled on site
 - > All equipment was successfully installed on platform
 - Determined that for future operations, connexes can be coupled directly without external bracing
 - > Negligible movement of legs throughout life of project (max movement 0.48 in)
 - > No damage to tundra under/around the platform
 - Operations were successfully reactivated on the platform after a shut-down period of eight months
 - > Topsides and platform were removed and transported to storage as planned
 - 50 of 51 platform legs could be removed by heating (Figure 21); one leg was cut off below grade



Figure 21. Vacuuming Platform Leg Holes after Leg Removal

- 2. "Roadless" operations were proved in 2003. In 2004, operating costs were saved by building four miles of ice road to access the well site.
- 3. No lost-time injuries were reported.
 - > +100,000 staff-hours on site
 - > Over 150 different vendors used
- 4. 93% core recovery achieved; continuously cored from 80 to 2300 ft MD (24 to 701 m) (base of Hydrate Stability Zone).
- 5. Onsite core analysis was conducted successfully.
- 6. The team demonstrated continuous coring of permafrost with chilled drilling fluid.
- 7. Remote viewing was demonstrated along with access to ongoing operations from anywhere at any time.
- 8. Successfully used a rotating head while coring.
- 9. Developed a custom slim-hole dynamic kill well-control model.
- 10. Proved downhole CMR as effective as surface CMR in 2003 (surface CMR was not available in 2004).
- 11. Onsite CT scan of all core was performed by Lawrence Berkley National Laboratory.
- 12. Real-time coal desorption tests on coal core samples were performed by USGS in 2003. (Contrary to prediction, no coal found in 2004 drilling.)
- 13. We conducted the first shallow massive VSP on the North Slope of Alaska.
- 14. Successfully obtained open-hole logs throughout the wellbore.
- 15. Conducted pilot test of zero discharge for camp operations (requires further refinement for future operations).
- 16. Coring system was designed to allow maximum hydrate recovery.
- 17. Evaluated LBNL hydrate software models.
- 18. Evaluated other coring systems, including pressure coring systems.
- 19. Increased core diameter from original plan to minimize hydrate dissociation.
- 20. Split-barrel stainless steel liners were found to work very well.
- 21. Obtained good quality core at high recovery rates.
- 22. Continuous coring achieved 93% success.

- 23. Operational downtime encountered due to:
 - Foaming of mud
 - Mud temp control
 - Solids control
 - Freezing of mud system
- 24. Operational downtime problems solved by:
 - > Foaming reduced by modifications of circulating systems and equipment
 - > Refined regulation of feed mud, solids control, rebuilt chiller system
 - Used finer mesh screens, operated centrifuges judiciously without causing foaming problems
 - Modified mud chemistry lowered freeze point of mud in 2004 along with better insulation of mud transfer lines

5. References

Ali G. Kadaster, and Keith K. Millheim, 2004: "Onshore Mobile Platform: A Modular Platform for Drilling and Production Operations in Remote and Environmentally Sensitive Areas," IADC/SPE paper 18740, presented at IADC/SPE 2004 Annual Meeting in Dallas, Texas, March.

Appendix A: Daily Drilling Reports for 2002-2003 Drilling Season

Date:	01/28/03	Hot Ice Project
Rpt. No.	1	Daily Mobilization & Installation Report



 From	То	Time	Code	Activity Time Summary
6:00	7:30	1.50		Meet With Catco & Denali To Discuss Mobilizing Equipment To Site.
7:30	15:30	8.00		Load Out Equipment & Prepare to Depart Deadhorse.
15:30	20:30	5.00		Mobilize Following From Deadhorse to DS-2H.
				Rolligon 90-03 with Texoma 600 Drill Rig.
				Rolligon 90-11 with Bus & Trailer with Field Fuel Tank.
				Rolligon 90-18 Tractor Trailer with Supplies.
20:30	0:00	3.50		Offload Excess Supplies, Meet with Lounsbury & Obtain Route
				Coordinates.
	Total	18.00	Hours	·

al	18.00	Hou

Equipment	Location
Catco 32 Bed Camp	DS-2H
Catco Loader	DS-2H
Peak Light Plants (2)	DS-2H
Peak Light Plants (2)	Hot Ice
Tioga Heater	DS-2H
Mattracks (2)	DS-2H
RT-85 w/Drill	Hot Ice
RT-85 w/Bus & Fuel Pup	Hot Ice
RT-85 Tractor Trailer	Hot Ice
RT-85 w/Water House	Hot Ice

Personnel In Field	KCC	DS-2H
Anadarko Rep.	2	
Anadarko HSE	1	
Alaska Clean Seas	2	
Catco		7
Catering		3
Denali Drilling		9
Doyon Security	2	
Duane Miller		2
Environmental	2	
Medic		1
Nana Dynatec		2
Peak		
	9	24

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: None Reported

Visitor Steve Freemyer and Environmental Co-coordinators Barb Vanderwende and Laura Barlow Comments: arrive at KCC.

Equipment Down:

Date:	01/29/03	Hot Ice Project
Rpt. No.	2	Daily Mobilization & Installation Report



From	То	Time	Code	Activity Time Summary
0:00	3:30	3.50		Mobilize Rolligons (3), Drill Crew (5), Mattracks & Drivers (2), DM&A (1),
				Client Rep (1) to Hot Ice #1 Location.
3:30	6:00	2.50		Position Drill Over Primary Well Bore & Rig Up to Drill 20" Conductor
				Hole.
6:00	9:30	3.50		Hydraulics on Rig Froze Up, Return Crews to 2H for Tioga Heater & Tarps.
9:30	13:00	3.50		Wait on Tioga & Tarps to Arrive From Deadhorse.
13:00	15:30	2.50		Mob Crews, Tioga, & Tarps to Site.
15:30	18:30	3.00		Tarp Rig, Set Tioga & Warm Up Rig.
18:30	0:00	5.50		Auger Drill 20" Hole From Surface To 35'
	Total	24.00	Hours	

Equipment	Location	Personnel In Field	KCC	DS-2H
Catco 32 Bed Camp	DS-2H	Anadarko Rep.	2	
Catco Loader	DS-2H	Anadarko HSE	1	
Peak Light Plants (2)	DS-2H	Alaska Clean Seas	2	
Peak Light Plants (2)	Hot Ice	Catco		7
Tioga Heater	DS-2H	Catering		3
Mattracks (2)	DS-2H	Denali Drilling		9
RT-85 w/Drill	Hot Ice	Doyon Security	2	
RT-85 w/Bus & Fuel Pup	Hot Ice	Duane Miller		2
RT-85 Tractor Trailer	Hot Ice	Environmental	2	
RT-85 w/Water House	Hot Ice	Medic		1
Tioga Heater	Hot Ice	Nana Dynatec		2
Peak Loader	Hot Ice	Peak		
		L	9	24

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: Catco Spill of 2 Gallons Grey Water at DS-2H Pad. Spill Contained on Gravel Pad & Cleanup Complete.

<u>Comments:</u> Visitor Steve Freemyer and Environmental Co-coordinators Barb Vanderwende and Laura Barlow Set Up Field Office In KIC.

Equipment Down: One Mattrack Down Due to Broken Tie Rod Linkage

Daily Water Usage:	18,000	Gallons
Accumalative Water Usage:	18,000	Gallons
Lake Drawn From:	MO2114	

Date: 01/30/03 **Hot Ice Project Daily Mobilization & Installation Report** Rpt. No. 3



Present Operation: Auger Drill 20" Conductor Hole At 76 Feet

From	То	Time	Code	Activity Time Summary
0:00	3:00	3.00		Drlg to 50' - hit hard spot - frozen gravel. Pulled bit - broke shank plate.
3:00	5:00	2.00		Changed bit.
5:00	10:30	5.50		Ream to bottom with new bit.
10:30	14:00	3.50		Drlg from 50' - 60'.
14:00	20:00	6.00		Repair Catco rolligon trailer - clean up location.
20:00	0:00	4.00		Drlg from 60' - 64'.
L	Total	24.00	Hours	

Equipment	Location	Personnel In Field	KCC	DS-2H
Catco 32 Bed Camp	DS-2H	Anadarko Rep.	2	
Catco Loader	DS-2H	Anadarko HSE		
Catco Pickup (2)	DS-2H	Alaska Clean Seas	2	
Peak Light Plants (2)	DS-2H	Catco		7
Peak Light Plants (2)	Hot Ice	Catering		3
Tioga Heater	DS-2H	Denali Drilling		9
Mattracks (2)	DS-2H	Doyon Security	2	
RT-85 w/Drill	Hot Ice	Duane Miller		2
RT-85 w/Bus & Fuel Pup	Hot Ice	Environmental	2	
RT-85 Tractor Trailer	Hot Ice	Medic		1
RT-85 w/Water House	Hot Ice	Nana Dynatec		2
Tioga Heater	Hot Ice	Peak		2
Peak Loader	Hot Ice			
Engineering House	Hot Ice			
			8	26

Accidents/Injuries: None Reported

Safety:

Crews conducting Pretour Safety Meetings.

Catco Spill of 2 Gallons Grey Water at DS-2H Pad. Spill Contained on Gravel Pad & Environmental Incidents: Cleanup Complete.

Comments: Visitor Steve Freemyer Departed AM. Laura Barlow Visited Hot Ice Site.

Equipment Down: One Mattrack Repaired & Operational. Second Mattrack Experienced Same Failure - Repaired.

Daily Water Usage: 39,000 Gallons 57,000 Accumalative Water Usage: Gallons MO2114 Lake Drawn From:

Date:01/31/03Hot Ice ProjectRpt. No.4Daily Mobilization & Installation Report



8

25

Present Operation: Auger Drill 20" Hole To 62'

From	То	Time	Code	Activity Time Summary
0:00	9:30	9.50		Auger Drill 20" Hole From 64' To 80'.
9:30	10:30	1.00		Reposition Rig To #2 (#15) Conductor Hole.
10:30	0:00	13.50		Auger Drill 20" Hole From Surface To 54'.
	Total	24.00	Hours	1

Equipment	Location	Personnel In Field	KCC	DS-2H
Catco 32 Bed Camp	DS-2H	Anadarko Rep.	2	
Catco Loader	DS-2H	Anadarko HSE		
Catco Pickup (2)	DS-2H	Alaska Clean Seas	2	
Peak Light Plants (2)	DS-2H	Catco		7
Peak Light Plants (2)	Hot Ice	Catering		3
Tioga Heater	DS-2H	Denali Drilling		8
Mattracks (2)	DS-2H	Doyon Security	2	
RT-85 w/Drill	Hot Ice	Duane Miller		2
RT-85 w/Bus & Fuel Pup	Hot Ice	Environmental	2	
RT-85 Tractor Trailer	Hot Ice	Medic		1
RT-85 w/Water House	Hot Ice	Nana Dynatec		2
Tioga Heater	Hot Ice	Peak Loader Op		2
Peak Loader	Hot Ice	Peak Crane Op		
Engineering House	Hot Ice			

<u>Accidents/Injuries:</u> Chris Jensen, Dynatec Driver Slipped & Fell On Ice Pad At Location. NLTA. Correctice Action: Ice Cleats Ordered.

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: None reported Received 4,300 gal diesel for Catco camp. Repositioned Drill & Made Top 20' In 4 Hr. Comments: Equipment Down: RT85 Rolligon w/ bus and fuel pup. Daily Water Usage: 150,000 Daily Accum. Accumalative Water Usage: 207,000 Fuel 1,587 6,187 Lake Drawn From: MO2114 Potable Water 600 4,000

Date:02/01/03Hot Ice ProjectRpt. No.5Daily Mobilization & Installation Report



Present Operation: Prepare to cement conductor pipes #1 & #2

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: None reported

From	То	Time	Code	Activity Ti	me Summa	ary		
0:00	13:30	13.50		Auger drill	20" conduc	tor hole fron	n 54' to 70'.	
13:30	15:30	2.00		Repair bit.				
15:30	21:00	5.50		Auger drill	20" conduc	tor hole from	n 70' to 80'	T. D.
21:00	0:00	3.00		Prepare to	run 9 5/8" d	conductor pi	pe - warm	up pipe, remove
				thread prot	ectors, stra	p pipe. Held	PJSM.	
				_				
	Total	0.00	Hours					
Equipmen			Location	Personnel		KCC	DS-2H	
Catco 32 B	•		DS-2H	Anadarko F	•	2		
Catco Load	der		DS-2H	Anadarko I	ISE			
Catco Pick	up (2)		DS-2H	Alaska Cle	an Seas	2		
Peak Light	Plants (2)		DS-2H	Catco			7	
Peak Light	Plants (2)		Hot Ice	Catering			3	
Tioga Heat	ter		DS-2H	Denali Drill	ing		8	
Mattracks ((2)		DS-2H	Doyon Sec	urity	2		
RT-85 w/D	rill		Hot Ice	Duane Mill	er		2	
RT-85 w/B	us & Fuel P	ир	Hot Ice	Environme	ntal	2		
RT-85 Trac	ctor Trailer		Hot Ice	Medic			1	
RT-85 w/W	/ater House		Hot Ice	Nana Dyna	atec		2	
Tioga Heat	ter		Hot Ice	Peak Load	er Op		2	
Peak Load	er		Hot Ice	Peak Cran	e Op			
Engineerin	g House		Hot Ice			8	25	
					Lake			
Consumat	oles	Potable	Grey	Fuel	MO2115	Equipmen	<u>t Down:</u>	
Previous B	alance							
Received								
Days Usag	e	950		1,005	96,000	Comments	<u>s:</u>	
Accumulate		4,950		7,192	303,000			
On Hand		•		5,108		1		
8								

Date:02/02/03Hot Ice ProjectRpt. No.6Daily Mobilization & Installation Report



Present Operation: Drilling pile hole #8 @ 0600 hrs. Completed #1, #4, & #6

Accidents/Injuries: None reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents:

2 gal graywater spill at Catco camp on DS2H pad.

From	То	Time	Code	Activity Ti				
	3:00	3.00		Ran 9 5/8"	' 40# condu	ictor in H.I.#	[£] 1 (14) .Set	on btm @ 80'.
3:00	6:00	3.00		Ran 9 5/8"	40# condu	ictor in H.I.#	[£] 2 (15). Set	on btm @ 80'.
					Thread locked and welded connections.			
6:00 1	10:30	4.50		Survey & C	hock #1 Co	onductor In	Preparation	For Cementing
				While Wait	ing On Cen	nent Truck 7	Fo Arrive Or	n Rolligon
10:30 1	13:00	2.50		Add 70 Deg	gree Water	to Dry Mix,	Mix Cemen	t, Pour 5.5 Yards
				Cement In	Annulus Of	#1 Conduc	tor, TOC =	13'
	14:00	1.00						For Cementing
14:00 1	16:00	2.00		Survey & N	lark Pile Ho	ole Numbers	s 1, 4, 6, 8,	10, & 12
	17:00	1.00		Position Dr	ill Over Pile	e Hole #1		
	18:00	1.00				8' Foot Dep		
18:00 1	19:00	1.00						t, Pour 5.5 Yards
						#2 Conduc		8'
	20:00	1.00				#1 to 21' T	.D.	
	20:30	0.50		Move Drill				
20:30	0:00	3.50		Drill Pile Ho	ole #4 to 11	'.		
	Fotal	24.00	Hours			1/00		1
Equipment	0		Location	Personnel		KCC	DS-2H	
Catco 32 Bed (Camp		DS-2H	Anadarko F	•	2		
Catco Loader	2)		DS-2H DS-2H	Anadarko H Alaska Cle		2		
Catco Pickup (2			DS-2H DS-2H		an Seas	2	7	
Peak Light Plai Peak Light Plai	• • •		Hot Ice	Catco Catering			7 3	
Tioga Heater	ms (2)		DS-2H	Denali Drill	ina		8	
Mattracks (2)			DS-2H DS-2H	Denali Dhii Doyon Sec		2	0	
RT-85 w/Drill			Hot Ice	Duane Mille		2	2	
RT-85 w/Bus &			Hot Ice	Environme		2	2	
RT-85 Tractor		•	Hot Ice	Medic	inai	2	1	
RT-85 w/Water			Hot Ice	Nana Dyna	itec		2	
Tioga Heater	iiiuse		Hot Ice	Peak Load			2	
Peak Loader			Hot Ice	Peak Cran	•		۷	
Engineering Ho			Hot Ice		- Oh	8	25	
	Juse				Lake	0	23	
Consumables	;	Potable	Grey	Fuel		Equipmen	t Down:	
Previous Balan	nce	4,950		5,108				
Received								
David L1						1		
Days Usage					78,000	Comments	<u>s:</u>	
Days Usage Accumulated		-		-				nt of Grey Water

Date:02/03/03Hot Ice ProjectRpt. No.7Daily Mobilization & Installation Report



Present Operation: Drilling pile hole #5.

Accidents/Injuries: None reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: Liteplant fell off rolligon 1 1/4 miles from Hot Ice #1 - 2 quart spill (gycol, diesel, and oil) to tundra. Clean up complete.

From	То	Time	Code	Activity Ti	me Summa			
0:00	18:00	18.00				6,8,10,12, a	nd #2.	
18:00	23:00	5.00		Bit maintai		,, -, -, -, -		
23:00	0:00	1.00			o pile hole ;	# 3.		
					•			
	Total	0.00	Hours					7
Equipment			Location	Personnel		KCC	DS-2H	_
Catco 32 Be	•		DS-2H	Anadarko I		2		
Catco Load	-		DS-2H	Anadarko I				
Catco Picku			DS-2H	Alaska Cle	an Seas	2	-	
Peak Light I			DS-2H	Catco			9	
Peak Light I			Hot Ice	Catering			3	
Tioga Heate			DS-2H	Denali Drill			12	
Mattracks (2			DS-2H	Doyon Sec	•	2	-	
RT-85 w/Dr			Hot Ice	Duane Mill			2	
RT-85 w/Bu		up	Hot Ice	Environme	ntal	2		
RT-85 Tract			Hot Ice	Medic			1	
RT-85 w/Wa			Hot Ice	Nana Dyna			2	
Tioga Heate			Hot Ice	Peak Load	•		2	
Peak Loade			Hot Ice	Peak Cran	e Crew		2	
Catco water		anta (2)	Hot Ice					
Airport Rent			Hot Ice					
Airport Rent		eater	Hot Ice					
Peak 50T C			DS-2H			8	33	-
Engineering	j riouse		Hot Ice		Lake	ð	১১	J
Consumab	00	Potable	Grey	Fuel	Lake MO2115	Equipment	Down	
		Fotable	Grey	Fuei		Equipment	DOMI!	
				1 300	301,000			
		000			12 000	Commonto		
						<u>comments</u>	<u>.</u>	
	u	3,000			423,000			
Previous Ba Received Days Usage Accumulate	alance	900 5,850		4,300 1,513 7,700	42,000 423,000	Comments		
On Hand				6,550				

Date:02/04/03Hot Ice ProjectRpt. No.8Daily Mobilization & Installation Report



Present Operation: Drilling pile hole # 18

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: None reported

From	То	Time	Code	Activity Ti	me Summa	ary	
0:00	0:00	24.00		Drill 20" pie	er holes #3,	5,7,9,11,13,	and 16.
			0				
			-				
F	Total	0.00	Hours	D	La Field	1/00	
Equipment Catco 32 B			Location DS-2H	Personnel Anadarko F		ксс 2	DS-2H
Catco Load			DS-2H	Anadarko I	•	2	
Catco Picku	-		DS-2H	Alaska Cle	-	2	
Peak Light			DS-2H	Catco		_	9
Peak Light			Hot Ice	Catering			3
Tioga Heate			DS-2H	Denali Drill	ing		12
Mattracks (2			DS-2H	Doyon Sec		2	
RT-85 w/Dr	ilÍ		Hot Ice	Duane Mille	-		2
RT-85 w/Bu	is & Fuel P	up	Hot Ice	Environme	ntal	1	
RT-85 Trac	tor Trailer		Hot Ice	Medic			1
RT-85 w/W			Hot Ice	Nana Dyna			2
Tioga Heate	. ,		Hot Ice	Peak Load			2
Peak Loade			Hot Ice	Peak Cran	e Crew		2
Catco wate	r house		Hot Ice				
Dumpster			HA				
Peak 50T C	rane		DS-2H				
Manlift			DS-2H				
Engineering	House(2)		Hot Ice		Laka	7	33
Consumab	les	Potable	Grey	Fuel	Lake MO2115	Equipmen	t Down:
Previous Ba		5,850	Giey	6,550	423,000	<u>-quipinen</u>	
Received		0,000		2,000	0,000	1	
Days Usage	Э	700		1,205	66,000	Comments	Transport
Accumulate		6,550		7,755	489,000		to Hot Icea
On Hand		,		5,345	,	1	

Date:02/05/03Hot Ice ProjectRpt. No.9Daily Mobilization & Installation Report



Present Operation: Wait on Weather

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: None reported

From	То	Time	Code					
0:00	16:30	16.50		Drill 20" pi	er holes # 1	7,18, and 1	9.	
				Cut hole in	connex for	tioga heate	r - load con	nex with frozen sand
					-			ce location due to
				-	•	ple on Hot I		
16:30	0:00	7.50				- ·	,	DS-2H for Hot Ice
				22:30 hrs 1	to check eq	uipment, fue	el, push sno)W.
Equipmen	Total +	24.00	Hours Location	Personnel	In Field	КСС	DS-2H	1
Catco 32 B			DS-2H	Anadarko F		2	03-211	
Catco 52 D	•		DS-2H	Anadarko I	•	2		
Catco Pick			DS-2H	Alaska Cle	-	2		
Peak Light	• • •		DS-2H	Catco		2	9	
Peak Light	• •		Hot Ice	Catering			3	
Tioga Heat	• • •		DS-2H	Denali Drill	ina		12	
Mattracks (DS-2H	Doyon Sec	•	2		
RT-85 w/D	· ·		Hot Ice	Duane Mille		_	2	
	us & Fuel P	an	Hot Ice	Environme		1		
RT-85 Trac		- 1-	Hot Ice	Medic			1	
RT-85 w/W	/ater House		Hot Ice	Nana Dyna	tec		2	
Tioga Heat			Hot Ice	Peak Load			2	
Peak Load			Hot Ice	Peak Cran	•		2	
Dumpster -	Colville		DS-2H					
Manlift			DS-2H					
Catco wate	er house		Hot Ice					
Peak 50T (Crane		DS-2H					
Engineerin	g House(2)		Hot Ice			7	33	
					Lake			
Consumat		Potable	Grey	Fuel	MO2115	Equipmen	<u>t Down:</u>	
Previous B	alance	6,550		7,755	489,000			
Received								
Days Usag		1,050		1,495	0			ed 4 platform modules
Accumulate	ed	7,600		9,250	489,000	to Hot Ice i	n past 24 hi	rs.
On Hand								

Date: 02/06/03 Rpt. No. 10

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Dig out - push snow and start up equipment

Accidents/Injuries: None Reported

Crews conducting Pretour Safety Meetings. Safety:

Environmental Incidents: None reported

From To	Time	Code	Activity Ti	me Summa	iry		
0:00 22:00	22.00		Wait on we				
22:00 0:00	2.00		Drill crew t	raveling to	Hot Ice to di	g out and sta	art work.
				-		-	
Total	24.00	Центе					
Equipment	24.00	Hours Location	Personnel	In Field	КСС	DS-2H	
Catco 32 Bed Camp		DS-2H	Anadarko F		2	D3-211	
Catco Loader		DS-2H	Anadarko H		2		
Catco Pickup (2)		DS-2H	Alaska Clea		2		
Peak Light Plants (2)		DS-2H	Catco		2	9	
Peak Light Plants (4)		Hot Ice	Catering			3	
Tioga Heater		DS-2H	Denali Drill	ina		12	
Mattracks (2)		DS-2H	Doyon Sec		2		
RT-85 w/Drill		Hot Ice	Duane Mille		_	2	
RT-85 w/Bus & Fuel Pu	ar	Hot Ice	Environme		1	_	
RT-85 Tractor Trailer	- I*	Hot Ice	Medic			1	
RT-85 w/Water House		Hot Ice	Nana Dyna	tec		2	
RT-85 w/ 3500 gal Fue	I	Hot Ice	, .				
Peak Loader		Hot Ice					
Dumpster - Colville		DS-2h					
Catco waterhouse		Hot Ice					
Manlift		DS-2H					
Peak 50T crane		DS-2H					
Tioga Heater(2)		Hot Ice	Peak Load	er Op		2	
Peak Loader		Hot Ice	Peak Crane			2	
Engineering House(2)		Hot Ice			7	33	
				Lake			
Consumables	Potable	Grey	Fuel	MO2115	Equipment	t Down:	
Previous Balance	7,600		3,749	489,000			
Received							
Days Usage	1,750		818		Comments	Catco haule	d one load to Hot
Accumulated	9,350		10,008	489,000		Ice. Warm-	up house
On Hand	3,000		2,931				ed out @ 06:00 hrs.

Date: 02/07/03 Rpt. No. 11

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Moving drill to pile hole #26

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents:

None reported

From	То	Hours	Code	Activity Ti	ne Summa	iry		
0:00	6:00	6.00		Dig out. Cle	ear snow of	f ice pad.		
6:00	14:30	8.50		Finished dr	illing 20" pil	e hole #19 [Drilled # 20	and #21.
14:30	16:30	2.00				drill/rolligon.		
16:30	0:00	7.50		Drilled 20"	oile holes #	22 and #23.		
	Tatal	04.00						
Equipment	Total	24.00	Hours Location	Personnel	In Field	KCC	DS-2H	1
Equipment Catco 32 Bec	d Camp		DS-2H	Anadarko F		2	D3-2H	
Catco Loade			DS-2H	Anadarko F		2		
Catco Pickup			DS-2H	Alaska Clea		2		
Peak Light Pl	· · ·		DS-2H	Catco		2	9	
Peak Light Pl			Hot Ice	Catering			3	
Heater (1)			DS-2H	Denali Drilli	na		12	
Mattracks (2)			DS-2H	Doyon Sec	•	2	12	
RT-85 w/Drill			Hot Ice	Duane Mille		_	2	
RT-85 w/Bus		an	Hot Ice	Environmer		1	_	
RT-85 Tracto			Hot Ice	Medic			1	
RT-85 w/Wat			Hot Ice	Nana Dyna	tec		2	
RT-85 w/ 350			Hot Ice	Peak Loade			2	
Peak Loader	-		Hot Ice	Peak Crane			2	
Dumpster - C	Colville		DS-2H					
Catco waterh			Hot Ice					
Manlift			DS-2H					
Peak 50T cra	ane		DS-2H					
Heater (3)			Hot Ice					
8 Bed Sleepe	er		DS-2H					
Engineering I	House(2)		Hot Ice			7	33	
					Lake			
Consumable		Potable	Grey	Fuel	MO2115	Equipment		
Previous Bala	ance	9,350		2,558	489,000			Threads on TieRod
Received				4,300		Nut Repa	aired After N	Aissing 1 Crew Chg.
Days Usage		900		1,191	0			
Accumulated		10,250		11,199	489,000			
On Hand		L		5,667				
Comments:		-						s, plywood, 6 x6
		lumber, and	a 5 piles to	Hot Ice loca	tion. Brough	nt two heate	rs not work	ing to 2H. Peak

delivered three working heaters and picked up two non working heaters.

Date: Rpt. No.	02/08/03 12	Hot Ice Project Daily Mobilization & Installation Report		
Present Op	peration:	Setting Piles & Wellhead Module #6	26	
Accidents/	<u>Injuries:</u>	None Reported		
Safety:		Crews conducting Pretour Safety Meetings.		

Environmental Incidents:

None reported

From To	Hours	Code	Activity Ti	me Summar	у		
0:00 24:00	24.00		Drill Pile He	oles #24, #25	, #26, #27,	#28, & #29	
Total	24.00	Hours					
Equipment		Location	Personnel	In Field	KCC	DS-2H]
Catco 32 Bed Camp		DS-2H	Anadarko I	•	2		
Catco Loader		DS-2H	Anadarko I				
Catco Pickup (2)		DS-2H	Alaska Cle	an Seas	2		
Peak Light Plants (2)		DS-2H	Catco			9	
Peak Light Plants (4)		Hot Ice DS-2H	Catering	ing		3 12	
Heater (1) Mattracks (2)		DS-2H DS-2H	Denali Drill Doyon Sec		2	12	
RT-85 w/Drill		Hot Ice	Duane Mill		2	2	
RT-85 w/Bus & Fuel Pup		Hot Ice	Environme		1	~	
RT-85 Tractor Trailer		Hot Ice	Medic			1	
RT-85 w/Water House		Hot Ice	Nana Dyna	atec		2	
RT-85 w/ 3500 gal Fuel		Hot Ice	Peak Load	er Op		2	
Peak Loader		Hot Ice	Peak Cran	e Crew		4	
Dumpster - Colville		DS-2H					
Catco waterhouse		Hot Ice					
Manlift		DS-2H					
Peak 50T crane		DS-2H					
Heater (3)		Hot Ice DS-2H					
8 Bed Sleeper Engineering House(2)		Hot Ice			7	35	4
				Lake	1	55	1
Consumables	Potable	Grey	Fuel	MO2115	Equipmen	t Down:	
Previous Balance	9,350	- ,	6,040	489,000			
Received							
Days Usage	1,000		947	0			
Accumulated	11,250		12,146	489000			
On Hand	8,350		5,093				

Comments:

Rolligon hauled Modules #20, #21, & #6 (Wellhead) to Hot Ice Location.

Rolligon loaded and hauled 50T Crane from 2H to Hot Ice Location, arriving on site at 0100 hrs. 2/9/03. Mobilized second shift Peak Crane Operator & Oiler to 2H at 1700 hours.

Date: Rpt. No.	2/9/2003 13	Hot Ice Project Daily Mobilization & Installation Report	A	Petroleum Corporation
Present Operation:		Wait On Weather		
Accidents/I	njuries:	None Reported		
<u>Safety:</u>		Crews conducting Pretour Safety Meetings.		

Environmental Incidents: None reported

From	То	Hours	Code	Activity Ti	me Summa	ary		
0:00	1:00	1.00					While Waiti	ng On Crane
1:00	10:00	9.00		PJSM. Inat	all & Surve	y In Piles 10	6, 17, 18, 19	9, 20, & 21
10:00	11:00	1.00				, Iodule #6 C		
11:00	12:00	1.00		Install Cho	cks			
12:00	16:00	4.00		Survey Mo	dule #6 - Fi	nal Survey	Indicates M	odule 2" Offset
				To the Eas	t At Top Of	Piles.		
16:00	16:30	0.5		Attempt To	Adjust Mo	dule Using I	Loader	
16:30	18:00	1.5		Remove C	hocks & Re	move Modu	le From Pile	es.
				Checked M	Iodule Leg	Well Measu	irements Ag	ainst Pile Survey
				Spacing &	Obtained Ic	dentical Rea	adings	
18:00	24:00	6.00			eather - Ph		C C	
	Total	24.00	Hours			1400		1
Equipment			Location	Personnel		KCC	DS-2H	-
Catco 32 B			DS-2H	Anadarko I		2		
Catco Load			DS-2H	Anadarko I		-		
Catco Pick	• • •		DS-2H	Alaska Cle	an Seas	2		
Peak Light			DS-2H	Catco			9	
Peak Light	Plants (4)		Hot Ice	Catering			3	
Heater (1)			DS-2H	Denali Drill	•		12	
Mattracks (· ·		DS-2H	Doyon Sec		2		
RT-85 w/Di			Hot Ice	Duane Mill			2	
	us & Fuel Pup		Hot Ice	Environme	ntal	1		
RT-85 Trac			Hot Ice	Medic			1	
	ater House		Hot Ice	Nana Dyna			2	
	500 gal Fuel		Hot Ice	Peak Load			2	
Peak Loade			Hot Ice	Peak Cran	e Crew		4	
Dumpster -			DS-2H					
Catco wate	rhouse		Hot Ice					
Manlift			Hot Ice					
Peak 50T	crane		Hot Ice					
Heater (3)			Hot Ice					
8 Bed Slee	•		DS-2H					
Engineering	g House(2)		Hot Ice			7	35	J
					Lake			
Consumat		Potable	Grey	Fuel		Equipmen	t Down:	
Previous B	alance	5,800		5,093	489,000			
Received				4,300				
Days Usag		1,000		1,443	0			
Accumulate	ed	11,250		12,146	489,000			
On Hand		4,800		7,950				

Comments:

Denali Crews Elected to Suspend Operations Due to Weather Conditions. Wind Estimated At 30 - 40 MPH. Took 1 3/4 Hour Each Way To & From Site In Mattracks & By the time site crew arrived at 2H Kuparuk had declared Phase III. CW, MW, & 3 Man Lounsbury Survey Crew Traveled to KOC in Mattrack with Kuparuk security

Date:	2/10/2003
Rpt. No.	14

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Wait on Weather With Crews On Site

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: No

None reported

From To	Hours	Code	Activity Ti	me Summa	ary					
0:00 17:00	17.00		Wait on we		· · · · ·					
17:00 18:00	1.00		Denali drill crew traveled to Hot Ice.							
18:00 0:00	6.00		Two heaters down. Fire heaters and watch equipment. Wait on							
			weather to change.							
			Ĭ							
Total	24.00	Hours								
Equipment	24.00	Location	Personnel	In Field	КСС	DS-2H	1			
Catco 32 Bed Camp		DS-2H	Anadarko F		2		1			
Catco Loader		DS-2H	Anadarko H							
Catco Pickup (2)		DS-2H	Alaska Cle		2					
Peak Light Plants (2)		DS-2H	Catco 9							
Peak Light Plants (4)		Hot Ice								
Heater (1)		DS-2H	Denali Drilling 12							
Mattracks (2)		DS-2H	Doyon Security 2							
RT-85 w/Drill		Hot Ice	Duane Miller 2							
RT-85 w/Bus & Fuel Pup		Hot Ice	Environme	ntal	1					
RT-85 Tractor Trailer		Hot Ice	Medic			1				
RT-85 w/Water House		Hot Ice	Nana Dyna	tec		2				
RT-85 w/ 3500 gal Fuel		Hot Ice	Peak Load	er Op		2				
Peak Loader		Hot Ice	Peak Crane	e Crew		4				
Dumpster - Colville		DS-2H	Lounsbury		6					
Catco waterhouse		Hot Ice								
Manlift		Hot Ice								
Peak 50T crane		Hot Ice								
Heater (3)		Hot Ice								
8 Bed Sleeper/ Generator		DS-2H								
Engineering House (2)		Hot Ice								
Air Compressor/Jack Ham	mer	Hot Ice								
Welding Machine	1	Hot Ice		1	13	35	J			
Consumables	Dotoble	Grou	Fuel	Lake MO2115	Equipment	Down				
Previous Balance	Potable 4,800	Grey	Fuel 7,950	489,000	Equipment					
Received	4,800		1,950	409,000						
Days Usage	1,000		- 1,419	0						
Accumulated	11,250		12,146	489,000						
On Hand	3,800		6,531	-03,000						
Comments:	3,000		0,001		J					

Comments:

Date: 2/11/2003 Rpt. No. 15 Hot Ice Project Daily Mobilization & Installation Report



Present Operation:Auger Drilling Pile Hole #35
Setting & Aligning Piles #1, 3, 4, 5Accidents/Injuries:None Reported

Safety:

Crews conducting Pretour Safety Meetings.

Environmental Incidents: None reported

FromToHoursCodeActivity Time Summary0:009:009:009:009:00Uait on weather9:0010:001.00Dig Out Around Rolligon DrillDig Out Around Rolligon Drill10:0010:300.50Position Drill Over Pile Hole #3010:3013:303.00Auger Drill Pile Hole #30 To 21' Depth13:3015:302.00Reposition Drill & Auger Drill Pile Hole #31 To 21' Depth15:3018:002.50Reposition Drill & Auger Drill Pile Hole #32 To 21' Depth18:0018:300.50Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops)18:3022:304.00Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth22:3024:001.50Reposition Drill & Auger Drill Pile Hole #34 To 5' DepthCoation Personnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.Catco LoaderDS-2HAnadarko HSE
10:0010:300.50Position Drill Over Pile Hole #3010:3013:303.00Auger Drill Pile Hole #30 To 21' Depth13:3015:302.00Reposition Drill & Auger Drill Pile Hole #31 To 21' Depth15:3018:002.50Reposition Drill & Auger Drill Pile Hole #32 To 21' Depth18:0018:300.50Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops)18:3022:304.00Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth22:3024:001.50Reposition Drill & Auger Drill Pile Hole #34 To 5' DepthEquipmentLocationPersonnel In FieldCatco 32 Bed CampDS-2HAnadarko Rep.
10:0010:300.50Position Drill Over Pile Hole #3010:3013:303.00Auger Drill Pile Hole #30 To 21' Depth13:3015:302.00Reposition Drill & Auger Drill Pile Hole #31 To 21' Depth15:3018:002.50Reposition Drill & Auger Drill Pile Hole #32 To 21' Depth18:0018:300.50Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops)18:3022:304.00Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth22:3024:001.50Reposition Drill & Auger Drill Pile Hole #34 To 5' DepthEquipmentLocationPersonnel In FieldCatco 32 Bed CampDS-2HAnadarko Rep.
10:3013:303.00Auger Drill Pile Hole #30 To 21' Depth Reposition Drill & Auger Drill Pile Hole #31 To 21' Depth Reposition Drill & Auger Drill Pile Hole #32 To 21' Depth Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops) Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops) Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Reposition Drill & Auger Drill Pile Hole #34 To 5' DepthTotal24.00HoursEquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2
13:3015:302.00Reposition Drill & Auger Drill Pile Hole #31 To 21' Depth Reposition Drill & Auger Drill Pile Hole #32 To 21' Depth Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops) Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops) Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Reposition Drill & Auger Drill Pile Hole #34 To 5' DepthTotal24.00HoursEquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2
15:3018:002.50Reposition Drill & Auger Drill Pile Hole #32 To 21' Depth Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops) Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops) Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Reposition Drill & Auger Drill Pile Hole #34 To 5' DepthTotal24:00HoursEquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2
18:0018:300.50Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops) Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Reposition Drill & Auger Drill Pile Hole #34 To 5' Depth22:3024:001.50Pretour Safety Meeting (Ice Cleats, Frost Bite, Crane Ops) Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth Reposition Drill & Auger Drill Pile Hole #34 To 5' DepthTotal24.00HoursEquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2
18:30 22:30 4.00 Reposition Drill & Auger Drill Pile Hole #33 To 21' Depth 22:30 24:00 1.50 Reposition Drill & Auger Drill Pile Hole #34 To 5' Depth Total 24.00 Hours Equipment Location Catco 32 Bed Camp DS-2H Anadarko Rep. 2
22:30 24:00 1.50 Reposition Drill & Auger Drill Pile Hole #34 To 5' Depth Total 24.00 Hours Equipment Location Personnel In Field KCC DS-2H Catco 32 Bed Camp DS-2H Anadarko Rep. 2 2
Total 24.00 Hours Equipment Location Personnel In Field KCC DS-2H Catco 32 Bed Camp DS-2H Anadarko Rep. 2
EquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2
EquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2
EquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2
Catco 32 Bed Camp DS-2H Anadarko Rep. 2
Catco Loader DS-2H Anadarko HSE
Catco Pickup (2) DS-2H Alaska Clean Seas 2
Peak Light Plants (2)DS-2HCatco9
Peak Light Plants (4) Hot Ice Catering 3
Heater (1)DS-2HDenali Drilling12
Mattracks (2) DS-2H Doyon Security 2
RT-85 w/Drill Hot Ice Duane Miller 2
RT-85 w/Bus & Fuel Pup Hot Ice Environmental 1
RT-85 Tractor Trailer Hot Ice Medic 1
RT-85 w/Water House Hot Ice Nana Dynatec 2
RT-85 w/ 3500 gal Fuel Hot Ice Peak Loader Op 2
Peak Loader Hot Ice Peak Crane Crew 4
Dumpster - Colville DS-2H Lounsbury 6
Catco waterhouse Hot Ice
Manlift Hot Ice
Peak 50T crane Hot Ice
Heater (3) Hot Ice
8 Bed Sleeper/ Generator DS-2H
Engineering House (2) Hot Ice
Air Compressor/Jack Hammer Hot Ice
Welding Machine Hot Ice 13 35
Consumables Potable Grey Fuel MO2115 Equipment Down:
ConsumablesPotableGreyFuelMO2115Equipment Down:Previous Balance3,8007,950489,000
Received 4,300
Days Usage 1,000 3,635 0
Accumulated 12,250 15,781 489,000
On Hand 2,800 8,615

Comments:

Concurrent activity - Dig snow out around piles 16 ~ 21, Remove piles 19-20-21, Survey & Align Pile #18, Re-install Pile #21, Survey & Align Same, Align Pile #17, Re-install Pile #20, Survey & Align Same, Survey & Align Pile #16, Re-install Pile #19, Survey & Align Same. Pre-Slurry Bottom 5 Feet of Piles 16 ~21.

Date:	2/12/2003
Rpt. No.	16

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Thawing Out Rig While Slurrying #16 & #19

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: None reported

From То Hours Code **Activity Time Summary** Auger Drill Pile Hole #34 To 21', Reposition Drill & Auger Drill Pile 0:00 6:00 6.00 Hole #35 To 7' Depth 3.00 Auger Drill Pile Hole #35 To 21' Depth 6:00 9:00 9:00 17:00 8.00 Reposition Drill & Open Pile Holes #1, #2 & #5 To 24" To Align 17:00 Reposition Drill Over Drill Pile Hole #36, Pickup & Set #6 Module 18:00 1.00 18:00 24:00 6.00 Auger Drill Pile Hole #36, Install Chocks & Shovel Snow Out Of Module #6 24.00 Total Hours Personnel In Field KCC Location DS-2H Equipment Catco 32 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko HSE 2 DS-2H Alaska Clean Seas Catco Pickup (2) Peak Light Plants (2) Catco 9 DS-2H Peak Light Plants (4) Hot Ice Catering 3 Heater (1) DS-2H Denali Drilling 12 Dovon Security 2 Mattracks (2) DS-2H Duane Miller 2 RT-85 w/Drill Hot Ice RT-85 w/Bus & Fuel Pup Hot Ice Environmental 1 RT-85 Tractor Trailer Hot Ice Medic 1 2 RT-85 w/Water House Hot Ice Nana Dynatec RT-85 w/ 3500 gal Fuel Hot Ice Peak Loader Op 2 Peak Loader Hot Ice Peak Crane Crew 4 Dumpster - Colville DS-2H Lounsbury 6 Catco waterhouse Hot Ice Manlift Hot Ice Peak 50T crane Hot Ice Heater (3) Hot Ice 8 Bed Sleeper/ Generator DS-2H Engineering House (2) Hot Ice Air Compressor/Jack Hammer Hot Ice Welding Machine Hot Ice 13 35 Lake MO2115 Equipment Down: Consumables Potable Fuel Grey Previous Balance 3,800 7,950 489,000 Received Days Usage 1.250 1.750 0 Accumulated 12,250 17,531 489,000 2,550 6,200 On Hand **Comments:**

Date:2/13/2003Rpt. No.17

Hot Ice Project Daily Mobilization & Installation Report

Present Operation:Opening Pile Hole #10 To 24"Slurrying Piles 22, 23, 24Accidents/Injuries:None Reported



Safety:

Crews conducting Pretour Safety Meetings.

Environmental Incidents:

None reported

From	То	Hours	Code	Activity Time Summary							
0:00	6:00	6.00		Open Pile #36 To 24", Rig Froze Up, Slurry Piles 17, 18, 20, & 21							
6:00	6:30	0.50		Conduct Pretour Safety Meeting							
6:30	8:00	1.50		Thaw Rig, Slurry Pile #19							
8:00	12:00	4.00		Reposition & Auger Drill Pile Hole #37 To 24", Slurry Pile #16							
12:00	18:00	6.00		Reposition & Open Pile Holes 22, 23. 24, & 25 To 24"							
				Slurry Crew Pickup & Set Module #1, Survey & Adjust Horizontal							
				Position With Threaded Load Rings, Survey Good, Install Chocks.							
18:00	18:30	0.50		Conduct Pr	retour Safet	y Meeting	-				
18:30	22:30	4.00		Reposition	& Auger Dr	ill Pile Hole	#38 To 24",	Slurry Piles 1, 3, 4,			
				& 5	-						
22:30	24:00	1.50		Reposition	& Open Pile	e Hole #6 to	24"				
					•						
	Total	24.00	Hours								
Equipment			Location	Personnel	In Field	KCC	DS-2H]			
Catco 32 Be			DS-2H	Anadarko F		2					
Catco Load	•		DS-2H	Anadarko HSE							
Catco Picku			DS-2H	Alaska Cle	an Seas	2					
Peak Light I			DS-2H	Catco			9				
Peak Light I			Hot Ice	Catering			3				
Heater (1)			DS-2H	Denali Drilling 12							
Mattracks (2	2)		DS-2H	Doyon Security 2							
RT-85 w/Dr	,		Hot Ice	Duane Miller 2							
	is & Fuel Pup		Hot Ice	Environmental 1							
RT-85 Tract	•		Hot Ice	Medic			1				
RT-85 w/Wa			Hot Ice	Nana Dyna	itec		2				
	500 gal Fuel		Hot Ice	Peak Load			2				
Peak Loade	•		Hot Ice	Peak Cran	•		2 4				
Dumpster -			DS-2H	Lounsbury		6					
Catco water			Hot Ice	, , , , , , , , , , , , , , , , , , ,							
Manlift			Hot Ice								
Peak 50T c	crane		Hot Ice								
Heater (3)			Hot Ice								
· · ·	per/ Generator		DS-2H								
Engineering			Hot Ice								
	ssor/Jack Hamr	ner	Hot Ice								
Welding Ma			Hot Ice								
				Lake							
Consumab		Potable	Grey	Fuel MO2115 Equipment Down:							
Previous Ba	alance	3,800		6,200 489,000 Catco Rolligon Used With Water House							
Received				2,900				se To Repair Broken			
Days Usage		1,250		3,680	0	Aluminum I	Frame.				
Accumulate	d	13,500		21,211	489,000						
On Hand Comments		2,550		5,420							

Comments:

Set & Survey Piles 22, 23, & 24. Pickup & Land #7 Module. Presently surveying in.

Date: 2/14/2003 Rpt. No. 18

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Setting piles # 27,28 & 29.

Accidents/Injuries: None Reported

Safety:

Crews conducting Pretour Safety Meetings.

Environmental Incidents:

None reported

Peak 50T craneHot lceHeater (3)Hot lce8 Bed Sleeper/ GeneratorDS-2HEngineering House (2)Hot lceAir Compressor/Jack HammerHot lceWelding MachineHot lceVelding MachineHot lceTrevious Balance3,800Received2,900Days Usage1,250Accumulated15,000Q1 Hand21,644489,000On Hand9504,5554,555	From	То	Hours	Code	Activity Time Summary						
33:00:00 AM 6:00:00 AM 2:50 Reamed pile holes # 8 & 10 to 24". Set Module # 7. Installed chocks in module # 7. Slurried pile holes # 22, 23& 24. Reamed pile holes # 10, 12, 7 & 8 to 24". 6:00:00 PM 12:00 Reamed pile holes # 8 & 10 to 24". Set Module # 7. Installed chocks in module # 7. Slurried pile holes # 21, 26, 6 & 7. Ream holes # 11, 13, 27, 29 & 30 to 24". 12:00AM 6:00 M 6:00 Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 29 & 30 to 24". 12:00AM 6:00AM 6:00 Personnel In Field KCC Catco 32 Bed Camp DS-2H Anadarko Rep. 2 Catco 21 Bed Camp DS-2H Anadarko HSE 2 Catco 22 Bed Camp DS-2H Anadarko HSE 2 Catco 10 Clokup (2) DS-2H Anadarko HSE 2 Catco 10 Personnel In Field KCC 9 3 Peak Light Plants (4) Hot Ice Catco 9 Peak Light Plants (4) Hot Ice Environmental 1 Mattracks (2) DS-2H Doyon Security 2 2 RT-85 wDrill Hot Ice Environmental 1 1	12:00:00 AM	1:00:00 AM	1.00		Reamed #6 pile hole to 24" Set piles #22-23 & 24 to grade						
3:30:00 AM 6:00:00 AM 2:50 Reamed pile holes # 8 & 10 to 24". Set Module # 7. 6:00:00 PM 12:00:00 PM 12:00 Reamed pile holes # 10, 12, 7 & 9 to 24". 12:000AM 6:00 PM 12:00:00 PM 6:00 27, 29 & 30 to 24". 12:000AM 6:00 AM 6:00 27, 29 & 30 to 24". Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 29 & 30 to 24". 12:000AM 6:00AM 6:00 27, 29 & 30 to 24". Set module # 2 and #8 Finish reaming pile holes # 34. Will move to pile hole # 33. Finished slurying #7. Crane setting piles # 27, 28, and 29. Catco 123 Bed Camp DS-2H Anadarko Rep. 2 Catco 123 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko Rep. 12 Catco Loader DS-2H Doyon Security 2 2 Frask Worbil Hot Ice Environmental	1:00:00 AM	3:30:00 AM	2.50		Move drill t	o weld wed	ges on piles	; #22, 23 & 2	24. Surveyed in # 22,		
6:00:00 AM 18:00:00 PM 12:00 Installed chocks in module # 7. Sturied pile holes # 22, 238 24. 6:00:00 PM 12:00:00 AM 6:00 Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 28 & 30 to 24". 12:00AM 6:00 AM 6:00 Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 28 & 30 to 24". 12:00AM 6:00 AM 6:00 Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 28 & 30 to 24". 12:00AM 6:00 AM 6:00 Setting and surveying piles # 27, 28, and 29. Imstalled chocks in module # 2 and #8 Finished slurying # 7. Crane setting piles # 27, 28, and 29. Imstalled chocks in module # 2 and #8 Finished slurying # 7. Crane setting piles # 27, 28, and 29. Imstalled chocks in module # 2 and #8 Finished slurying # 7. Crane setting piles # 27, 28, and 29. Imstalled chocks in module # 2 and #8 Finished slurying # 7. Crane setting piles # 27, 28, and 29. Imstalled chocks in module # 2 and #8 Finished slurying # 7. Crane setting piles # 27, 28, and 29. Imstalled chocks in module # 3. Finished slurying # 7. Crane setting piles # 27, 28, and 29. Imstalled chocks in module # 3. Finished slurying # 7. Crane setting piles # 27, 28, and 29. Imstalled chocks in module # 7. Sturget # 10, 100 Finished slurying # 7. Crane setting piles											
8:00:00 PM 18:00:00 PM 12:00 A Reamed pile holes # 10, 12, 7.8 9 to 24 ^a . Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 29 & 30 to 24 ^a 12:00AM 6:00 AM 6.00 Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 29 & 30 to 24 ^a 12:00AM 6:00 AM 6.00 Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 29 & 30 to 24 ^a 12:00AM 6:00 AM 6.00 Setting and surveying piles # 27, 28, and 29. Image: transmit in the set of the se	3:30:00 AM	6:00:00 AM	2.50		Reamed pi	le holes # 8	8 & 10 to 24"	. Set Modul	e # 7.		
6:00:00 PM 12:00:00 AM 12:00AM 12:00:00 AM 6:00AM 6.00 Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 29 & 30 to 24" 12:00AM 12:00:00 AM 6:00AM 6.00 Setting and surveying piles # 25, 26, 6 & 7. Ream holes # 11, 13, 27, 29 & 30 to 24" 12:00:00 AM 6:00AM 6:00 Setting and surveying piles # 27, 28, and 29. Image: transmission of trans	6:00:00 AM										
12:00 AM 6:00 27, 29 & 30 to 24 ⁱ Set module # 2 and #8 12:00 AM 6:00 AM 6:00 27, 29 & 30 to 24 ⁱ Set module # 2 and #8 Finished slurrying # 7. Crane setting piles # 27, 28, and 29. Finished slurrying # 7. Crane setting piles # 27, 28, and 29. Equipment Location Personnel In Field KCC DS-2H Catco 132 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko HSE 4aska Clean Seas 2 Catco Loader DS-2H Anadarko HSE 4aska Clean Seas 2 9 Peak Light Plants (2) DS-2H Doyon Security 2 2 12 Mattracks (2) DS-2H Doyon Security 2 2 2 RT-85 w/Water House Hot Ice Duane Miller 1 1 1 RT-85 tractor Trailer Hot Ice Nana Dynatec 2 2 2 RT-85 w/Water House Hot Ice Nana Dynatec 2 2 2 RT-85 w/3600 gal Fuel Hot Ice Nato Song Gal Fuel <td></td> <td>18:00:00 PM</td> <td>12.00</td> <td></td> <td>Reamed pi</td> <td>le holes # 1</td> <td>0, 12, 7 & 9</td> <td>to 24".</td> <td></td>		18:00:00 PM	12.00		Reamed pi	le holes # 1	0, 12, 7 & 9	to 24".			
12:00AM 6:00AM Set module # 2 and #8 Finish rearning pile holes # 34. Will move to pile hole # 33. Finish rearning pile holes # 34. Will move to pile hole # 35. 12 DS-2H Catco hole # 10 DS-2H Catering 3 Mattracks (2) DS-2H Doyon Security 2 2 RT-85 wiDkil # P	6:00:00 PM										
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						489,000					
	On Hand		950		4,555						

Comments:

Date: 2/15/2003 Rpt. No. 19 Hot Ice Project Daily Mobilization & Installation Report Anadarke Petrdam Corporation

Present Operation:

Accidents/Injuries: None Reported

Safety:

Crews conducting Pretour Safety Meetings.

Setting piles # 27,28 & 29.

Environmental Incidents:

Spill @ Catco camp on 2h pad. 6 gal gray H2O in containment .25 gal. on ice. 1!

From	То	Hours	Code	Activity Time Summary
0:00	6:00	6.00		Set module # 2 and # 8. Finish reaming pile hole # 34 to 24".
6:00: AM	7:00	1.00		Move drill to pile hole #33.
7:00: AM	9:00	1.00		Ream pile hole # 34 to 24".
9:00	10:30	2.50		Move rig and drill pile hole #39-24". Slurried piles # 25 & # 26.
10:30	12:30	2.00		Drill # 53 pile hole @ 24". Set # 8 & 9 piles. Set bucket # 3.
12:30	14:00	1.50		Move drill rig to #44 pile hole.Fuel rig. Set #11 & 10 piles. Slurry #
14:00	16:00	2.00		9 pile. Set bucket # 4. Drill # 44 pile hole @ 24". Dump snow out
16:00	18:00	2.00		of bucket # 5 with crane.Move drill rig to pile hole # 43. Thawing
				sand to continue slurrying piles.
18:00	0:00	6.00		Set Bucket # 5. Drill pile hole # 43, 42 & 41 @ 24". Unable to align
				piles in holes # 27 and 29.
6:00				Reamed pile hole #27 to 30". Moving rig to # 29 to ream to
				30".Aligning pile in # 27 pile hole.Slurrying piles # 8-11-12
				Install handrails on east side of modules # 6-7-8. Installing wood
•		-	-	deck on # 8.

Total	24.00	Hours]			
Equipment		Location	Personnel	In Field	KCC	DS-2H
Catco 32 Bed Camp		DS-2H	Anadarko F	Rep.	2	
Catco Loader		DS-2H	Anadarko H	ISE		
Catco Pickup (2)		DS-2H	Alaska Clea	an Seas	2	
Peak Light Plants (2)		DS-2H	Catco			9
Peak Light Plants (4)		Hot Ice	Catering			3
Heater (1)		DS-2H	Denali Drill	ing		12
Mattracks (2)		DS-2H	Doyon Sec	urity	2	
RT-85 w/Drill		Hot Ice	Duane Mille	er		2
RT-85 w/Bus & Fuel Pup		Hot Ice	Environme	ntal	1	
RT-85 Tractor Trailer		Hot Ice	Medic			1
RT-85 w/Water House		Hot Ice	Nana Dyna	tec		2 2
RT-85 w/ 3500 gal Fuel		Hot Ice Peak Loader Op				2
Peak Loader		Hot Ice	Peak Crane	e Crew		4
Dumpster - Colville		DS-2H	Lounsbury		6	
Catco waterhouse		Hot Ice				
Manlift		Hot Ice				
Peak 50T crane		Hot Ice				
Heater (3)		Hot Ice				
8 Bed Sleeper/ Generator		DS-2H				
Engineering House (2)		Hot Ice				
Air Compressor/Jack Hammer		Hot Ice				
Welding Machine		Hot Ice			13	35
				Lake		
Consumables	Potable	Grey	Fuel	MO2115	Equipment	t Down:
Previous Balance	3,800		6,200	489,000	1 Manlift	
Received			4,300			
Days Usage	1,050		700	0		
Accumulated	15,000		25,944	489,000		
On Hand	950		7,155			
<u>Comments:</u>						

Date:2/16/2003Rpt. No.20

20 Daily Mobilization & Installation Report :: Setting piles # 27,28 & 29. Anadarka Petrdaum Corporation

Present Operation:

Accidents/Injuries: None Reported

Safety:

Crews conducting Pretour Safety Meetings.

Hot Ice Project

Environmental Incidents:

Spill @ Catco camp on 2h pad. 6 gal gray H2O in containment .25 gal. on ice.

From	То	Hours	Code	Activity Ti	Time Summary						
0:00	6:00	6.00			Ream pile hole# 27 to 30".Rig up on # 29 and ream to 30". Set						
				pile in # 27. Slurry piles # 8-11-12. Install handrails on both ends							
				of modules 6-7-8. Set and install wood decking on# 8.							
6:00	15:00	9.00		Move rig and drill # 45 pile hole to 24". Re-align pile # 29.							
15:00	16:30	1.50									
16:30	20:00	7.50		Set bucket # 9. Hold safety meeting with Laura Barlow and half of							
20:00	0:00	4.00			day crew. Second safety meeting with half of nite crew. Drilled pile hole # 51. Slurried piles # 11-13-27 and 29. Set and						
20.00	0.00	4.00					5#11-13-21	anu 29. Set anu			
0.00					iles # 41 an			la halaa # 44 and 40			
6:00								le holes # 41 and 42			
								oot center. Plan to			
								rrying back holes #			
				42 and 43 and redrill on correct centers.							
	Total	28.00	Hours								
Equipment	i otai	20.00	Location	Personnel	In Field	KCC DS-2H					
Catco 32 Bed (Camp		DS-2H	Anadarko I		2					
Catco Loader	oump		DS-2H	Anadarko I		_					
Catco Pickup (2)		DS-2H	Alaska Cle		2					
Peak Light Pla			DS-2H	Catco		9					
Peak Light Pla			Hot Ice	Catering							
Heater (1)			DS-2H	Denali Drilling 12							
Mattracks (2)			DS-2H		boyon Security 2						
RT-85 w/Drill			Hot Ice	Duane Mill		2 2					
RT-85 w/Bus 8	Eual Pun		Hot Ice								
RT-85 Tractor	•		Hot Ice	Medic	intai						
RT-85 w/Water			Hot Ice	Nana Dyna	itec	1 2					
RT-85 w/ 3500			Hot Ice	Peak Load			2				
Peak Loader	yai i uei		Hot Ice	Peak Cran			2 4				
Dumpster - Co	lvillo		DS-2H	Lounsbury	eciew	6	-				
Catco waterho			Hot Ice	Louisbury		0					
Manlift	use		Hot Ice								
Peak 50T crar			Hot Ice								
Heater (3)			Hot Ice								
8 Bed Sleeper/	Conorator		DS-2H								
			DS-2H Hot Ice								
Engineering Ho	or/Jack Hammer		Hot Ice								
Welding Machi				13 35							
			Hot Ice		l ako	13 35					
Consumables		Potable	Grey	Fuel		Equipment Down:					
Previous Balar		3,800		7,155	489,000						
Received	Γ	600		3,500							
Days Usage	Γ	600		3,795	0						
Accumulated	Γ	15,000		29,444	489,000						
On Hand		950		7,450							
Commonte:						•					

Comments:

Date:2/17/2003Rpt. No.21

Hot Ice Project Daily Mobilization & Installation Report Petrdeum Carporation

Present Operation: Moving rig to drill pile hole # 47

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents:

From	То	Hours	Code	Activity Time Summary							
0:00	6:00	6.00		Attemt to set module # 14. Could not set it as pile holes # 42 and							
					41 were drilled on 12.5' centers. They need to be on 11' centers.						
				Slurried pile hole # 28. Set piles in pile holes # 30-31-32. Move rig							
				from # 46 (did not drill # 46) to pile hole # 30 to ream it to 30". Rig							
				hyd. oil gelled up and would not operate. Heating rig to thaw oil.							
6:00	15:30	9.50		Attemting to thaw rig with heaters. Enclosed rig mast w/ herculite.							
0.00	10.00	0.00									
					Dumping snow out of modules.Both fairweather generators down, repaired one, unable to repair second.Ordered one from Peak.						
15:30	18:00	2.50				pile hole # 3		u one nom reak.			
18:00	0:00	6.00						6 @ 24". drill pile			
10.00	0.00	0.00									
						vey piles # 3		ala # 12 w/ aand			
					оскеа тоа	ule # 10. Pit	igged plie n	ole # 43 w/ sand			
				slurry.							
	Total	24.00	Hours								
Equipment			Location	Personnel	In Field	KCC	DS-2H				
Catco 32 Bed	Camp		DS-2H	Anadarko F		2					
Catco Loader	F		DS-2H	Anadarko I	•						
Catco Pickup	(2)		DS-2H	Alaska Cle	-	2					
Peak Light Pla			DS-2H								
Peak Light Pla			Hot Ice								
Heater (1)			DS-2H	5							
Mattracks (2)			DS-2H								
RT-85 w/Drill			Hot Ice	Duane Miller 2							
RT-85 w/Bus	& Fuel Pup		Hot Ice	Environmental 1							
RT-85 Tractor			Hot Ice	Medic		•	1				
RT-85 w/Wate			Hot Ice	Nana Dyna	tec						
RT-85 w/ 3500			Hot Ice	Peak Load			2 2 8				
Peak Loader	o gai i uci		Hot Ice	Peak Cran			8				
Dumpster - Co	alvilla		DS-2H	Lounsbury	olow	6	0				
Catco waterho			Hot Ice	Louisbury		0					
Manlift	Juse		Hot Ice								
Peak 50T cra	20		Hot Ice								
Heater (3)			Hot Ice								
8 Bed Sleeper	/ Conorator		DS-2H								
			Hot Ice								
Engineering H	or/Jack Hammer		Hot Ice								
Welding Mach											
			Hot Ice	13 39 Lake							
Consumables	s	Potable	Grey								
Previous Bala		3,800		7,155 489,000 Fairweather generator							
Received	Γ	1,700		3,500	1,500		-				
Days Usage	Г	1,500		974	0						
Accumulated	Γ	15,000		29,444	490,000						
On Hand		3,600		6,486	· · · · ·						
-		•	-								

Comments: Plugging back pile hole # 42.Will finish drilling last two pile holes today. will keep only one Denali crew to ream pile holes as needed and to redrill # 42 and 43. Will alert Artic catering to stand by to rig up when it is set.

Date: 2/18/2003 Rpt. No. 22

Hot Ice Project Daily Mobilization & Installation Report

Anadari



ation:Install handrails and manhole covers around deck. Lourisbury doing
camp platform as-built. RU 150T crane.Slurry piles # 39-40 & 53uries:None Reported

Accidents/Injuries: None Re

Safety:

Crews conducting Pretour Safety Meetings.

Environmental Incidents: None reported

From	То	Hours	Code	Activity Ti	me Summa	ary				
0:00	6:00	6.00		Dril 24" pile hole # 50 & #47. Plugged pile hole #42						
				Set and survey'd piles # 33 - #40. Slurred piles # 30,31, and 32.						
6:00	18:00	12.00		Slurryed holes #33,34,35, and 38 Set platform modules #11						
				and #12. Drilled pile holes #48, and #49.						
18:00	0:00	6.00		Slurryed pi	les # 36 & 3	37. Set mod	ule #13. Un	load sand from		
				rolligon. Pe	eak rigging i	up 150T cra	ne.			
I										
F aulian ant	Total	24.00	Hours	Davaannal	In Field	KCC		ı		
Equipment Catco 32 Bed	Comp		Location DS-2H	Personnel Anadarko I		KCC	DS-2H			
Catco Loader	Camp		DS-2H DS-2H	Anadarko I		2		•		
Catco Pickup ((2)		DS-2H	Alaska Cle		2				
Peak Light Pla			DS-2H	Catco	an Seas	2	8			
Peak Light Pla			Hot Ice	Catering			3			
Heater (1)			DS-2H	Denali Drill	ina		10			
Mattracks (2)			DS-2H	Doyon Sec	<u> </u>	2	10			
RT-85 w/Drill			Hot Ice	Duane Miller			2	•		
RT-85 w/Bus &	Fuel Pup		Hot Ice	Environme		1	_			
RT-85 Tractor			Hot Ice	Medic		_	1			
RT-85 w/Wate			Hot Ice	Nana Dyna	atec		10			
RT-85 w/ 3500			Hot Ice	Peak Load			2			
Peak Loader	0		Hot Ice	Peak Cran			8			
Dumpster - Co	lville		DS-2H	Lounsbury		6				
Catco waterho	use		Hot Ice							
Manlift			Hot Ice							
Peak 50T crar	ne		Hot Ice							
Heater (3)			Hot Ice							
8 Bed Sleeper			DS-2H					1		
Engineering H			Hot Ice							
	or/Jack Hammer	r	Hot Ice					4		
150 Ton Crane	9		Hot Ice					4		
85 Ton Crane			Hot Ice			10		4		
Welding Machi	ine		Hot Ice		Laka	13	44	J		
Consumables		Potable	Grey	Fuel	Lake MO2115	Equipmen	t Down:			
Previous Balar		3,800	Grey	6,486	489,000	Lquipinen	L DOWIL			
Received		1,650		0,400	100,000					
Days Usage		1,000		3,886	0					
Accumulated		16,000		29,444	490,500					
On Hand		4,250		2,600						
		.,=30		,000		1				

Comments:

Surveyors doing as built on camp platform. Rig waiting on pile holes # 42 & 43 to freeze back. Peak's 150 T crane will be rigged up today. Bottom 5 camp modules on 2H pad. East half of rig platform is up and slurryed. Pile hole #42 is frozen to 3'.



\$ \$

Hot Ice Project Mobilization & Installation Cost

Date:	February	19,	2003
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58,635 Daily Total 1,316,575 Accumulated Total Report #:

1 Hot Leb Drilling Supt. Contract. 1250 per day 3 1250 2. 2 ACS Tech Fees ACS 1000 per day 2 1000 2. 4 Security Doyon 600 per day 2 1000 1. 5 Soils Engineers DMA 1200 per day 2 1000 1. 5 Svires Engineers DMA 1000 per day 1 1000 1. 6 Medic Fairweather 1000 per day 1 1000 1. 7 Surveyors Lousbury 100 per day 3 100 1. 10 Mobilization/Demobilization Catco 34 Bed Camp 3 100 1. 11 Mobilization Catco 200 per hour / minimum 4 hour day 1 200 4 3. 12 RD-45 with Boais OIII g Catco 200 per hour / minimum 4 hour day 1 200 4 3. 13 RD-45 with Boaioi OIII g Catco 200 p			, ,, ,, ,,					Daily
2 ACS Tech Fees ACS 1000 per day 2 1000 2 3 EHS Advisor Hoeffer 750 per day 2 600 1 5 Soils Engineers DMA 1200 per day 2 1000 1 5 Soils Engineers DMA 1200 per day 1 1000 1 7 Surveyors Lounsbury 1000 per day 1 1000 1 8 Lodging at Kupark CPAI 1000 per day 7 100 1 9 Company Pickups Fairweather 100 per day 7 100 1 10 Mobilization Catco At Bed Camp 1 1 1 11 Mobilization Catco 34 Bed Camp Cab St tractor 0 1 3 1 3 1 3 2 4 4 1 1 3 4 1 1 3 1 3 1 3 1 1 1	-				QTY		HRS	Cost
3 EHS Advisor Hoefler 750 per day 1 750 4 Security Doyon 600 per day 2 1000 1, 5 Soils Engineers DMA 1200 per day 1 1000 1, 6 Medic Fairweather 1000 per day 1 1000 1, 7 Surveyors Lounsbury 100 per day 7 1000 1, 8 Lodging at Kupark CPAI 100 per day 3 100 1, 9 Company Pickups Fairweather 100 per day 3 100 1, 10 Mobilization/Demobilization Catco Out Riggers For RD-85 With Drill 1 1 11 Mobilization Catco 200 per hour / minimum 4 hour day 1 200 8 1, 11 RD-85 with Denail Drill rig Catco 200 per hour / minimum 4 hour day 1 200 8 1, 11 RD-76 with 3000 gal Water House Catco 200 per hour / minim								3,750
4 Security Doyon 600 per day 2 600 1, 5 Soits Engineers DMA 1200 per day 1 1000 1, 7 Surveyors Lounsbury 1000 per day 1 1000 1, 7 Surveyors Lounsbury 100 per day 7 100 1, 8 Lodging at Kupark CPAI 100 per day 3 100 1, 9 Company Pickups Fairweather 100 per day 3 100 1, 10 Mobilization/Demobilization Denaii Texoma 600 Drill 1 1 11 Mobilization Catco Catco 200 per hour / minimum 4 hour day 1 200 8 1, 16 RD-85 with Dus & Evel Pup Catco 200 per hour / minimum 4 hour day 1 200 4 3, 17 RD-85 with Bus & Fuel Pup Catco 200 per hour / minimum 4 hour day 1 200 4 3, 18 RD-85 with 3								2,000
5 Solis Engineers DMA 1200 per day 2 1200 2. 6 Medic Fainweather 1000 per day 1 1000 11 7 Surveyors Lounsbury 1000 per day 7 1000 11 8 Lodging at Kupark CPA1 100 per day 3 100 1 9 Company Pickups Fairweather 100 per day 3 100 1 10 Mobilization Catico 34 Bed Camp 1					-			750
6 Medic Fairweather 1000 per day 1 1000 1,1 7 Surveyors Lounsbury 1000 per day 1 1000 1,1 9 Company Pickups Fairweather 100 per day 3 100 1 10 Mobilization/Demobilization Denait Texoma 600 Drill 1 <			-					1,200
7 Surveyors Lounsbury 1000 per day 1 1 1000 8 Lodging at Kupark CPAI 100 per day 3 100 1 9 Company Pickups Fairweather 100 per day 3 100 10 10 Mobilization/Demobilization Catco 34 Bed Camp 1 1 1 11 Mobilization/Demobilization Catco Out Riggers For RD-85 With Drill 1 1 13 Mobilization Catco 34 Bed Camp 3,250 Per Day 1 3240 3,3 16 RD-85 with Denail Drill rig Catco 200 per hour / minimum 4 hour day 1 200 4 4 17 RD-85 with Denail Drill rig Catco 200 per hour / minimum 4 hour day 1 200 4 3 18 RD-165 Tractor & Trailer Catco 200 per hour / minimum 4 hour day 1 200 4 4 18 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 4 4 4 4 4 4 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>2,400</td></t<>								2,400
8 Lodging at Kupark CPAI 100 per day 7 100 9 Company Pickups Fairweather 100 per day 3 100 10 Mobilization/Demobilization Denali Texoma 600 Drill 1 1 11 Mobilization/Demobilization Denali Texoma 600 Drill 1 1 12 Mobilization Catco Out Riggers For RD-85 tractor 0 1 13 Mobilization Catco Gatoo 200 per hour / minimum 4 hour day 1 200 4 3 16 RD-85 with Dus & Irailer Catco 200 per hour / minimum 4 hour day 1 200 8 1 18 RD-165 tractor & Trailer Catco 200 per hour / minimum 4 hour day 1 200 4 3 19 RD-85 with 300 agl Heil Tank Catco 200 per hour / minimum 4 hour day 1 200 4 3 21 Base Camp Loader Catco 200 per hour / minimum 4 hour day 1 200 4 4			Fairweather		1			1,000
9 Company Pickups Fairweather 100 per day 3 100 10 Mobilization/Demobilization Catco 34 Bed Camp 1 1 11 Mobilization Catco Out Riggers For RD-85 With Drill 1 1 12 Mobilization Catco Out Riggers For RD-85 With Drill 1 1 13 Mobilization Catco Gato 34 Bed Camp @ 3,250 Per Day 1 3240 4 3 14 Mobilization Catco 200 per hour / minimum 4 hour day 1 200 4 4 17 RD-85 with Denall Drill rig Catco 200 per hour / minimum 4 hour day 1 200 8 1,1 18 RD-105 Tractor & Trailer Catco 200 per hour / minimum 4 hour day 1 200 4 3 3 20 RD-85 with 3000 gal Water House Catco 200 per hour / minimum 4 hour day 1 200 4 3 100 21 Base Camp Loader Catco 100 per day 1 <td></td> <td></td> <td></td> <td></td> <td></td> <td>1000</td> <td></td> <td>1,000</td>						1000		1,000
10 Mobilization/Demobilization Catco 34 Bed Camp 1 11 Mobilization/Demobilization Catco Out Riggers For RD-85 With Drill 1 12 Mobilization Catco Mob-Demob of Kobelco excavator 0 14 Mobilization Catco Mob-Demob of Kobelco excavator 0 15 Construction Base Camp Catco 200 per hour / minimum 4 hour day 1 200 4 3.1 16 RD-85 with Denail Drill rig Catco 200 per hour / minimum 4 hour day 1 200 8 3.1 17 RD-85 with Duso K Trailer Catco 200 per hour / minimum 4 hour day 1 200 8 3.2 20 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 3.3 21 Base Camp Loader Catco 100 per day 1 100 2 100 2 11 2 1 1 1 1 2 1 1 1 1 1								700
11 Mobilization/Demobilization Denali Texoma 600 Drill 1 12 Mobilization Catco Out Riggers For RD-85 With Drill 1 13 Mobilization Catco Gin Poles for RD-85 tractor 0 14 Mobilization Catco S250 Per Day 1 3240 3.1 16 RD-85 with Denali Drill rig Catco 200 per hour / minimum 4 hour day 1 200 8 1,1 17 RD-85 with Denali Drill rig Catco 200 per hour / minimum 4 hour day 1 200 8 1,1 18 RD-105 Tractor & AT Trailer Catco 200 per hour / minimum 4 hour day 1 200 4 3.1 19 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 4 3.3 22 Foreman Catco 100 per day 1 100 1 2 1 1.1 1 1 1 1 1 1 1 1 1 1<	9	Company Pickups	Fairweather		3	100		300
12 Mobilization Catco Out Riggers For RD-85 With Drill 1 13 Mobilization Catco Gatco Sate Gatco Gata Gatco Gatco <td< td=""><td>10</td><td>Mobilization/Demobilization</td><td>Catco</td><td>34 Bed Camp</td><td>1</td><td></td><td></td><td></td></td<>	10	Mobilization/Demobilization	Catco	34 Bed Camp	1			
13 Mobilization Catco Mob-Demob of Kobelco excavator 0 14 Mobilization Catco Gin Poles for RD-85 trach 0 15 Construction Base Camp Catco 34 Bed Camp @ 3,250 Per Day 1 3240 4 16 RD-85 with Denail Drill rig Catco 200 per hour / minimum 4 hour day 1 200 4 37 17 RD-85 with Denail Drill rig Catco 200 per hour / minimum 4 hour day 1 400 8 37 18 RD-105 Tractor & Trailer Catco 200 per hour / minimum 4 hour day 1 200 4 33 19 RD-85 with 3000 gal Evel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 33 21 Base Camp Loader Catco 100 per day 1 100 2 36 36 22 Pick-Up Catco 100 per day 1 100 2 47 49 49 49 49 49 49 49 49 49 49 49 49 49 49 49 49		Mobilization/Demobilization	Denali		1			
14 Mobilization Catco Gin Poles for RD-85 tractor 0 15 Construction Base Camp Catco 34 Bed Camp @ 3,250 Per Day 1 3240 3,1 16 RD-85 with Denail Drill rig Catco 200 per hour / minimum 4 hour day 1 200 8 11,1 18 RD-105 Tractor & Trailer Catco 200 per hour / minimum 4 hour day 1 200 8 3,1 18 RD-55 with 3000 gal Water House Catco 200 per hour / minimum 4 hour day 1 200 4 330 20 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 330 <td></td> <td>Mobilization</td> <td>Catco</td> <td></td> <td>1</td> <td></td> <td></td> <td></td>		Mobilization	Catco		1			
15 Construction Base Camp Catco 34 Bed Camp @ 3,250 Per Day 1 3240 3,3 16 RD-85 with Denail Drill rig Catco 200 per hour / minimum 4 hour day 1 200 4 4 17 RD-85 with Denail Drill rig Catco 200 per hour / minimum 4 hour day 1 200 8 1,1 18 RD-105 Tractor & Trailer Catco 200 per hour / minimum 4 hour day 1 200 8 3,1 19 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 3,3 20 RO-55 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 3,30 21 Base Camp Loader Catco 200 per hour / minimum 4 hour day 1 100 200 4 1 3,10 1 100 100 100 100 200 4 1 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100	13	Mobilization	Catco	Mob-Demob of Kobelco excavator	0			
16 RD-85 with Denali Drill rig Catco 200 per hour / minimum 4 hour day 1 200 4 17 RD-85 with Bus & Fuel Pup Catco 200 per hour / minimum 4 hour day 1 200 8 18 RD-105 Tractor & Trailier Catco 400 per hour / minimum 4 hour day 1 400 8 3 19 RD-85 with 3000 gal Water House Catco 200 per hour / minimum 4 hour day 1 200 4 3 21 Base Camp Loader Catco 966 or Equivelent 1 330 2 21 Base Camp Loader Catco 100 per day 1 100 1 23 Foreman Catco 59 per hour 6 59 12 4, 40 Operator Catco On Site Mechanic 1 59 12 4, 25 Mechanic Catco On Site Mechanic 1 59 12 2, 7 Driller Denali 59 per hour 6 59 12	14	Mobilization	Catco	Gin Poles for RD-85 tractor	0			
17 RD-85 with Bus & Fuel Pup Catco 200 per hour / minimum 4 hour day 1 200 8 1,4 18 RD-105 Tractor & Trailer Catco 400 per hour / minimum 4 hour day 1 400 8 3,3 19 RD-85 with 3000 gal Water House Catco 200 per hour / minimum 4 hour day 1 200 4 330 20 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 330 5 21 Base Camp Loader Catco 100 per day 1 100 6 59 12 4, 22 Pick-Up Catco 100 per day 1 100 7 7 12 4, 12 1, 2, 12 4, 12 1, 2, 12 4, 12 1, 12 1, 2, 12 12 1, 2, 12 12 1, 2, 14 12 1, 2, 14 14 14 14 14 14 14 14 14 14 14 14 <td>15</td> <td>Construction Base Camp</td> <td>Catco</td> <td>34 Bed Camp @ 3,250 Per Day</td> <td>1</td> <td>3240</td> <td></td> <td>3,240</td>	15	Construction Base Camp	Catco	34 Bed Camp @ 3,250 Per Day	1	3240		3,240
18 RD-105 Tractor & Trailer Catco 400 per hour / minimum 4 hour day 1 400 8 3, 19 RD-85 w/3000 gal Water House Catco 200 per hour / minimum 4 hour day 1 200 4 3 20 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 3 21 Base Camp Loader Catco 966 or Equivelent 1 330 4 3 22 Pick-Up Catco 100 per day 1 100 2 61 12 1, 24 Operator Catco 59 per hour 6 59 12 4, 26 Texoma 600 Drill Denali 61 per hour 2 61 12 1, 28 Forewan Denali 59 per hour 6 59 12 4, 29 Stury Crew Denali 59 per hour 4 59 12 4, 30 Mattracks Dynatec Fo	16	RD-85 with Denali Drill rig	Catco	200 per hour / minimum 4 hour day	1	200	4	800
19 RD-85 w/3000 gal Water House Catco 200 per hour / minimum 4 hour day 1 200 20 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 330 21 Base Camp Loader Catco 966 or Equivelent 1 330 330 22 Pick-Up Catco 61 per hour 2 61 12 1, 24 Operator Catco 59 per hour 6 59 12 4, 25 Mechanic Catco On Site Mechanic 1 59 12 4, 26 Texoma 600 Drill Denali 200 per day 1 2,0 2,0 27 Driller Denali 59 per hour 6 59 12 4, 29 Slurry Crew Denali 59 per hour 4 59 12 2, 30 Mattrack Drivers Dynatec 50 per day 2 350 2 208 350 31 Mattrack Drivers Dynatec 350 per day 6 300 1, <	17	RD-85 with Bus & Fuel Pup	Catco	200 per hour / minimum 4 hour day	1	200	8	1,600
20 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1 200 4 21 Base Camp Loader Catco 966 or Equivelent 1 100 200 22 Pick-Up Catco 100 per day 1 100 200 23 Foreman Catco 61 per hour 2 61 12 1, 24 Operator Catco 59 per hour 6 59 12 4, 25 Mechanic Catco On Site Mechanic 1 59 12 4, 26 Texoma 600 Drill Denali 2000 per day 1 2,0 6 59 12 4, 27 Driller Denali 59 per hour 6 59 12 4, 28 Helper Denali 59 per hour 4 59 12 4, 30 Mattracks Dynatec Ford F-350 with tracks 2 208 2 350 350 350 36 30 1 30 30 30 30 3	18	RD-105 Tractor & Trailer	Catco	400 per hour / minimum 4 hour day	1	400	8	3,200
21 Base Camp Loader Catco 966 or Equivelent 1 330 330 22 Pick-Up Catco 100 per day 1 100 23 Foreman Catco 61 per hour 2 61 12 14, 24 Operator Catco 63 per hour 6 59 12 4, 25 Mechanic Catco On Site Mechanic 1 59 12 2, 26 Texoma 600 Drill Denali 61 per hour 2 61 12 1, 28 Helper Denali 61 per hour 2 61 12 1, 29 Sturry Crew Denali 59 per hour 6 59 12 2, 30 Mattrack Drivers Dynatec Ford F-350 with tracks 2 208 2 350 31 Mattrack Drivers Dynatec 350 per day 6 99 3 1 150 per day 6 300 1, 1, 34 Security/Engineering House Fainweather 150 per day	19	RD-85 w/3000 gal Water House	Catco	200 per hour / minimum 4 hour day	1	200		
22 Pick-Up Catco 100 per day 1 100 23 Foreman Catco 61 per hour 2 61 12 1, 24 Operator Catco 59 per hour 6 59 12 4, 25 Mechanic Catco On Site Mechanic 1 59 12 4, 26 Texoma 600 Drill Denali 2000 per day 1 2, 2, 26 Texoma 600 Drill Denali 61 per hour 2 61 12 1, 28 Helper Denali 59 per hour 6 59 12 4, 29 Slurry Crew Denali 59 per hour 4 59 12 2, 30 Mattracks Dynatec Ford F-350 with tracks 2 208 3 3 31 Indirect Heater Peak 99 per day 6 300 1, 1, 33 Indirect Heater Peak 300 per day 1 1150 1 1, 34 Security/Engineerin	20	RD-85 with 3000 gal Fuel Tank	Catco	200 per hour / minimum 4 hour day	1	200	4	800
23 Foreman Catco 61 per hour 2 61 12 1, 24 Operator Catco 59 per hour 6 59 12 4, 25 Mechanic Catco On Site Mechanic 1 59 12 4, 26 Texoma 600 Drill Denali 2000 per day 1 2,0 2,1 1,2 2,2 27 Driller Denali 61 per hour 2 61 12 1,4 28 Helper Denali 59 per hour 6 59 12 4,7 29 Slurry Crew Denali 59 per hour 4 59 12 2,0 30 Mattracks Dynatec Ford F-350 with tracks 2 208 3 3 1 12 1,0	21	Base Camp Loader	Catco	966 or Equivelent	1	330		330
24 Operator Catco 59 per hour 6 59 12 4. 25 Mechanic Catco On Site Mechanic 1 59 12 2 26 Texoma 600 Drill Denali 2000 per day 1 2 2 2 27 Driller Denali 61 per hour 2 61 12 1, 28 Helper Denali 59 per hour 6 59 12 4, 29 Slurry Crew Denali 59 per hour 4 59 12 2,4 30 Mattracks Dynatec Ford F-350 with tracks 2 208 3 31 Mattrack Drivers Dynatec 300 per day 6 99 3 32 Light Tower Peak 90 per day 6 300 1,1 34 Security/Engineering House Fairweather 150 per day inclusive of gen sets 2 150 1 35 Tor Crane (DS-2H) Peak 1 146 24 1, 38 Trucking	22	Pick-Up	Catco	100 per day	1	100		100
25 Mechanic Catco On Site Mechanic 1 59 12 26 Texoma 600 Drill Denali 2000 per day 1 20000 2000 2000 <t< td=""><td>23</td><td>Foreman</td><td>Catco</td><td>61 per hour</td><td>2</td><td>61</td><td>12</td><td>1,464</td></t<>	23	Foreman	Catco	61 per hour	2	61	12	1,464
25 Mechanic Catco On Site Mechanic 1 59 12 20 26 Texoma 600 Drill Denali 2000 per day 1 200	24	Operator	Catco	59 per hour	6	59	12	4,248
27 Driller Denali 61 per hour 2 61 12 1, 28 Helper Denali 59 per hour 6 59 12 4, 29 Slurry Crew Denali 59 per hour 4 59 12 2, 30 Mattracks Dynatec Ford F-350 with tracks 2 208 3 31 Mattrack Drivers Dynatec 350 per day 2 350 3 32 Light Tower Peak 99 per day 6 300 1, 34 Security/Engineering House Fairweather 150 per day inclusive of gen sets 2 150 3 35 50T Crane (DS-2H) Peak 1 1150 1 1, 45 Ton Crane (DS-2H) Peak 1 46 24 1, 36 Crane Operator Peak 1 46 24 1, 37 Crane Oiler/Rigger Peak 1 46 24 1, 38 Trucking Carlile 10 1 100	25	Mechanic	Catco	On Site Mechanic	1	59	12	708
28 Helper Denali 59 per hour 6 59 12 4,2 29 Slurry Crew Denali 59 per hour 4 59 12 2,3 30 Mattracks Dynatec Ford F-350 with tracks 2 208 - 31 Mattrack Drivers Dynatec 350 per day 2 350 - 32 Light Tower Peak 99 per day 6 99 - 33 Indirect Heater Peak 300 per day 6 300 1,1 34 Security/Engineering House Fairweather 150 per day inclusive of gen sets 2 150 - 35 50T Crane (DS-2H) Peak 150 per day inclusive of gen sets 1 1,1 1,0 - <td>26</td> <td>Texoma 600 Drill</td> <td>Denali</td> <td>2000 per day</td> <td>1</td> <td></td> <td></td> <td>2,000</td>	26	Texoma 600 Drill	Denali	2000 per day	1			2,000
29Slurry CrewDenali59 per hour459122,130MattracksDynatecFord F-350 with tracks2208431Mattrack DriversDynatec350 per day2350432Light TowerPeak99 per day699433Indirect HeaterPeak300 per day63001,134Security/Engineering HouseFairweather150 per day inclusive of gen sets215043550T Crane (DS-2H)Peak150 per day inclusive of gen sets111501,136Crane OperatorPeak16241,137Crane Oiler/RiggerPeak16241,138TruckingCarlile146241,140Loader - Hot IcePeak300 per day1300438Bed Sleeper & Gen SetArcic Catering1100444Welding MachineAirport Rental145446Air FaresLower 481250 per person Lower Forty Eight01250	27	Driller	Denali	61 per hour	2	61	12	1,464
29Slurry CrewDenali59 per hour459122,130MattracksDynatecFord F-350 with tracks2208431Mattrack DriversDynatec350 per day2350432Light TowerPeak99 per day699433Indirect HeaterPeak300 per day63001,134Security/Engineering HouseFairweather150 per day inclusive of gen sets215043550T Crane (DS-2H)Peak150 per day inclusive of gen sets111501,136Crane OperatorPeak16241,137Crane Oiler/RiggerPeak16241,138TruckingCarlile146241,140Loader - Hot IcePeak300 per day1300438Bed Sleeper & Gen SetArcic Catering1100444Welding MachineAirport Rental145446Air FaresLower 481250 per person Lower Forty Eight01250	28	Helper	Denali	59 per hour	6	59	12	4,248
32Light TowerPeak99 per day69933Indirect HeaterPeak300 per day63001,34Security/Engineering HouseFairweather150 per day inclusive of gen sets21503550T Crane (DS-2H)Peak111501,150 Ton Crane)Peak111501,36Crane OperatorPeak163241,37Crane Oiler/RiggerPeak146241,38TruckingPeak146241,39TruckingCarlile110 per hr w/ operator11102440Loader - Hot IcePeak300 per day130030030042DumpsterColvilleArctic Catering14504444Welding MachineAirport RentalAirport Rental145446Air FaresLower 481250 per person Lower Forty Eight012504	29	Slurry Crew	Denali	59 per hour	4	59	12	2,832
32Light TowerPeak99 per day69933Indirect HeaterPeak300 per day63001,34Security/Engineering HouseFairweather150 per day inclusive of gen sets21503550T Crane (DS-2H)Peak111501,150 Ton Crane)Peak111501,85 Ton Crane (DS-2H)Peak16241,36Crane OperatorPeak16241,37Crane Oiler/RiggerPeak146241,38TruckingPeak146241,39TruckingCarlile110 per hr w/ operator11102440Loader - Hot IcePeak300 per day130030030042DumpsterColville300 per day110030030044Welding MachineAirport RentalAirport Rental14504446Air FaresLower 481250 per person Lower Forty Eight0125044	30	Mattracks	Dynatec	Ford F-350 with tracks	2	208		416
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3550T Crane (DS-2H) 150 Ton Crane) 85 Ton Crane (DS-2H)Peak Peak Peak11150 1501,36Crane Operator Crane Oiler/RiggerPeak Peak163241,37Crane Oiler/RiggerPeak Peak146241,38Trucking TruckingPeak Carlile110 per hr w/ operator1110242,40Loader - Hot Ice Loader - Hot IcePeak Peak110 per hr w/ operator1110242,41Man Lift Loader - Hot IcePeak Peak300 per day1300303042Dumpster Lower & Gen Set Air compressor / Jack Hammer Air FaresAirport Rental Lower 481250 per person Lower Forty Eight01250	33	Indirect Heater	Peak	300 per day	6	300		1,800
150 Ton Crane) 85 Ton Crane (DS-2H)Peak PeakI63241,36Crane Operator Crane Oiler/RiggerPeak163241,37Crane Oiler/RiggerPeak146241,38TruckingPeak146241,39TruckingCarlile110 per hr w/ operator1110242,40Loader - Hot IcePeak300 per day130030030042DumpsterColville1100300300300300438 Bed Sleeper & Gen SetArctic Catering1450444504544Welding MachineAirport Rental1190454445Air compressor / Jack HammerAirport Rental11904546Air FaresLower 481250 per person Lower Forty Eight0125045	34	Security/Engineering House	Fairweather	150 per day inclusive of gen sets	2	150		300
150 Ton Crane) 85 Ton Crane (DS-2H)PeakImage: Constant of the constant o	35	50T Crane (DS-2H)	Peak		1	1150		1,150
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39TruckingCarlileImage: CarlingCarlileImage: Carling40Loader - Hot IcePeak110 per hr w/ operator1110242,041Man LiftPeak300 per day1300342DumpsterColville11003438 Bed Sleeper & Gen SetArctic Catering1450444Welding MachineAirport Rental145445Air compressor / Jack HammerAirport Rental1190346Air FaresLower 481250 per person Lower Forty Eight01250	37	Crane Oiler/Rigger	Peak		1	46	24	1,104
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41Man LiftPeak300 per day130030042DumpsterColville11001100438 Bed Sleeper & Gen SetArctic Catering1450444Welding MachineAirport Rental1454545Air compressor / Jack HammerAirport Rental119046Air FaresLower 481250 per person Lower Forty Eight01250	39	Trucking	Carlile					750
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438 Bed Sleeper & Gen SetArctic Catering145044Welding MachineAirport Rental14545Air compressor / Jack HammerAirport Rental119046Air FaresLower 481250 per person Lower Forty Eight01250	41	Man Lift	Peak	300 per day	1			300
44Welding MachineAirport Rental14545Air compressor / Jack HammerAirport Rental119046Air FaresLower 481250 per person Lower Forty Eight01250	42	Dumpster	Colville		1	100		100
45Air compressor / Jack HammerAirport Rental119046Air FaresLower 481250 per person Lower Forty Eight01250	43	8 Bed Sleeper & Gen Set	Arctic Catering		1	450		450
46 Air Fares Lower 48 1250 per person Lower Forty Eight 0 1250	44	Welding Machine	Airport Rental		1	45		45
46 Air Fares Lower 48 1250 per person Lower Forty Eight 0 1250	45				1	190		190
	46		Lower 48	1250 per person Lower Forty Eight	0			-
	47	Air Fares	Alaska	600 per person Anchorage/Prudhoe B	2	600		1,200
	48			?				1,000
				?				1,000
					1250	2		2,500



Hot Ice Project Mobilization & Installation Cost

Date: February 20, 2003	\$ \$		Daily Total Accumulated Total
	\$	1,389,554	Accumulated Total

Report #:

24

Item Description Vendor Information QTV RATE HRS Cost 1 Hol lae Drilling Supt. Contract 1250 per day 3 1250 3,750 2 ACS Tech Fees ACS 1000 per day 1 760 7,750 4 Security Doyon 600 per day 2 600 1,200 5 Solis Engineers DMA 1200 per day 1 1000 3,300 7 Surveyors Loumsbury 1000 per day 1 1000 700 700 9 Company Pickups Fairweather 1000 per day 1 100 700 700 11 Mobilization Cato Darling Gree For RD-85 With Drill 1 1 1 700 700 13 Mobilization Cato 200 per hour / inminum A hour day 1 200 4 800 14 Mobilization Cato 200 per hour / inminum A hour day 1 200 4 800 <th></th> <th></th> <th>\$ 1,389,554</th> <th>Accumulated Total</th> <th></th> <th></th> <th></th> <th>.</th>			\$ 1,389,554	Accumulated Total				.
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50 Fuel Nana 2.00 per gallon 1250 2 2,500				?				
	50	Fuel	Nana	2.00 per gallon	1250) 2		2,500

Date:	2/21/2003
Rpt. No.	25

Hot Ice Project Daily Mobilization & Installation Report



Present Operation:

Accidents/Injuries: None Reported

Safety:

Crews conducting Pretour Safety Meetings.

Install steel members in deck on module #8

Environmental Incidents: None reported.

From	То	Hours	Code	Activity Ti	me Summa	iry		
0:00 6:00 18:00	6:00 18:00 0:00	6.00 12.00 6.00		Clean up lo Set camp r of camp. R down - sen Take sheet	ocation. Mor nodules 2,3 ig drilled 10 t 20" auger : metal strip	nitor pile hol ,4,&5. Set e " pilot hole f in to have 9 ping out of r	or hole #43. 5/8" guide \	kway on north side Welding machines welded on. er camp units.
	Total	24.00	Hours		<u> </u>			1
Equipment	0		Location	Personnel		KCC	DS-2H	
Catco 32 Bed	Camp		DS-2H	Anadarko F		2		
Catco Loader			DS-2H	Anadarko H		0		
Catco Pickup			DS-2H	Alaska Cle	an Seas	2	9	
Peak Light Pla			DS-2H	Catco			3	
Peak Light Pla Heater (1)		1	Hot Ice DS-2H	Catering Denali Drill	ina		3	
Mattracks (2)			DS-211 DS-2H	Doyon Sec		2	5	
RT-85 w/Drill			Hot Ice	Duane Mille	<i>i</i>	2	2	
RT-85 w/Bus 8			Hot Ice	Environme		1	2	
RT-85 Tractor			Hot Ice	Medic		I	1	
RT-85 w/Wate		1	Hot Ice	Nana Dyna	itec		10	
RT-85 w/ 3500			Hot Ice	Peak Load			2	
Peak Loader	gai i aoi		Hot Ice	Peak Cran			8	
Dumpster - Co	lville		DS-2H	Lounsbury		3	-	
Catco waterho			Hot Ice	Photograph	ner	1		
Manlift		1	Hot Ice					
Peak 50T cra	ne		Hot Ice					
Heater (5)			Hot Ice					
8 Bed Sleeper			DS-2H					
Engineering H			Hot Ice					
150 Ton Crane	9		Hot Ice					
85 Ton Crane			Hot Ice					
Welding Mach	ine		Hot Ice			11	38	
Consumables	5	Potable	Grey	Fuel	Lake MO2115	Equipmen	t Down:	
Previous Balar		4,000		6,200	492,000			
Received		1,700		0]		
Days Usage		1,200		905	0			
Accumulated		18,600		35,349	492,000			
On Hand		4,200		5,295				

<u>Comments</u> Plan forward - Re-drill pile hole #42 and #43. Set piles, modules, and slurry. Continue setting camp.

Date: Rpt. No.	2/22/2003 26	Hot Ice Project Daily Mobilization & Installation Report	Anadarka [‡]
Present Operat	tion:	Set and suveying piles.	20
Accidents/Inju	ries:	None Reported	
<u>Safety:</u>		Crews conducting Pretour Safety Meetings.	

Environmental Incidents: Catco had 2-quart hydrolic oil spill on ice pad at Hot Ice #1. Hydrolic hose connector to fuel pump got smashed @ 02:30. Clean up and disposal complete.

From	То	Hours	Code	Activity Ti			o mpierer		
0:00				Attempt to	bolt lower c	amp modul		- unable to find bolts	
						eel member in deck on module # 8.Set			
	6:00	6.00				south end of			
6:00							-	/ed pile #43. Set	
								n. Start bolting lower	
	18:00	12.00		camp modules together Install sheet metal stripping on top of lower camp modules.					
18:00	10.00	12.00				11 9 12 50	t and abalks	ed module #14.	
10.00								ule #15. Slurried	
	0:00	6.00		Module #1					
	0.00	0.00							
	Total	24.00	Hours					_	
Equipment			Location	Personnel	In Field	KCC	DS-2H]	
Catco 32 Bed			DS-2H	Anadarko F		2			
Catco Loader			DS-2H	Anadarko I					
Catco Pickup			DS-2H	Alaska Cle	an Seas	2			
Peak Light Plants (2)			DS-2H	Catco			9		
Peak Light Plants (4)			Hot Ice	Catering			3		
Heater (1)		-	DS-2H Denali Drilling DS-2H Doyon Security				3	•	
Mattracks (2)		-	DS-2H			2	2		
RT-85 w/Drill			Hot Ice	Duane Miller2Environmental1					
RT-85 w/Bus			Hot Ice Hot Ice	Medic	ntai				
RT-85 Tractor RT-85 w/Wate		1	Hot Ice	Nana Dyna	too		10	•	
RT-85 w/ 350			Hot Ice	Peak Load			2		
Peak Loader	o gai i uci		Hot Ice	Peak Cran			8		
Dumpster - Co	olville		DS-2H	Lounsbury	0.01011	6		•	
Catco waterho			Hot Ice	Photograph	her	1			
Manlift			Hot Ice						
Peak 50T cra	ine		Hot Ice						
Heater (5)			Hot Ice						
8 Bed Sleeper	r/ Generator		DS-2H						
Engineering H	louse (2)		Hot Ice						
150 Ton Cran			Hot Ice						
85 Ton Crane			Hot Ice						
Welding Mach	nine		Hot Ice			14	38		
Consumables	S	Potable	Grey	Fuel	Lake MO2115	Equipment Down:			
Previous Bala		4,200	-	5,295	492,000	Catco Rolligon down due to transmission prob			
Received		1,100		4,300		Nite forklift struck corner of camp module # 8,			
Days Usage		1,000		905	0	cosmetic d	lamage.		
Accumulated		19,600		38,594	492,000	1			
On Hand		4,500		6,350					
Commonts:	Plan forward -	Sot romaining	nilos modu	loc and clu	ny Satton	fivo como n	nodulos		

Comments: Plan forward - Set remaining piles, modules, and slurry. Set top five camp modules.

Continue rigging up / setting in camp generator, water treatment modules, ect.

Date:	2/23/2003	Hot Ice Project	Anadarka	â
Rpt. No.	27	Daily Mobilization & Installation Report	Petrolaum Corporation	
Present Operation:		Set upper camp modules.	26	

Accidents/Injuries: None Reported

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Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents:

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Catco had 10 gal. grey water spill on DS-2H pad at catco camp @ 20:30 hrs.- 7 gal on gravel pad, 3 gal in containment. Clean up and disposal complete.

0:00 Set piles # 49,50,51,8 # 52. Bolt lower camp skids together. 6:00 18:00 12.00 18:00 12.00 Set piles # 49,50,51,8 # 52. (installed chiller). Elevation off 3". 18:00 0:00 6.00 Set piles # 44,45,46,47, & 48. Set platform modules 16,17, &18. 18:00 0:00 6.00 Set piles # 44,45,46,47, & 48. Set platform modules 16,87. 18:00 0:00 6.00 Set pile # 2. Set platform modules Set top camp modules # 68.7. Set pile #2. Set platform modules 19 &20 Slurry 46,51,47, & 50. Set pile #2. Set platform modules 19 &20 Slurry 46,51,47, & 50. Equipment Location Catco 12.0 ader DS-2H Anadarko Rep. 2 Catco Clokup (2) DS-2H Anadarko Rep. 2 Catco Clokup (2) DS-2H Alaska Clean Seas 2 Peak Light Plants (2) DS-2H Catco 9 Peak Light Plants (4) Hot Ice Cater Plants 3 Matracks (2) DS-2H Doyon Security 2 RT-85 w/Drill Hot Ice Hot Ice 10 RT-85 tractor Trailer
6:00 18:00 12:00 Set piles # 44, 45, 46, 47, & 48. Set platform modules 16, 17, & 18. Slurried pile holes 44, 45, & # 52 (w/ chiller). Finish bolting skids together on hower camp modules. Set top camp modules # 68, 7. Set pile #2. Set platform modules 19 & 20 Slurry 46,51,47, & 50. 18:00 0:00 6.00 Set pile #2. Set platform modules 19 & 20 Slurry 46,51,47, & 50. Equipment Location Personnel In Field KCC DS-2H Catco 32 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko HSE Catco Catop ICkup (2) Catco Pickup (2) DS-2H Anadarko HSE 9 Peak Light Plants (2) DS-2H Catco in g 3 Heater (1) DS-2H Doyon Security 2 RT-85 w/Drill Hot Ice Duane Miller 2 RT-85 w/Bus & Fuel Pup Hot Ice Nana Dynatec 10 RT-85 w/Bus & Fuel Pup Hot Ice Nana Dynatec 10 RT-85 w/Bus & Fuel Pup Hot Ice Peak Caare Crew 8 Dumpster - Colville DS-2H Loader Op 2 RT-85 w/Bus & Fuel Pup Hot Ice Peak Caare Crew 8 Dumpste
Is:000:006.00Slurried pile holes 44,45, & # 52 (w/ chiller). Finish bolting skids together on lower camp modules. Set top camp modules # 6& 7. Set pile #2. Set platform modules 19 & 20 Slurry 46,51,47, & 50.Total24.00HoursEquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2Catco LoaderDS-2HAnadarko HSECatco 10 ColorerDS-2HAnadarko HSECatco 10 ColorerDS-2HDS-2HCatco 10 ColorerDS-2HDS-2HCatco 10 ColorerDS-2HDS-2HCatco 10 ColorerDS-2HDS-2HCatco 10 ColorerDS-2HDS-2HCatco 10 ColorerDS-2HDoon Security2Catco 10 DS-2HDoon Security2RT-85 w/JOrillHot IceEnvironmental1RT-85 w/3500 gal FuelHot IceNana Dynatec10RT-85 w/3500 gal FuelHot IcePeak Carne Crew8Dumpster - ColvilleDS-2HLoursbury6Catco waterhouseHot IcePeak Carne Crew8Dumpster - ColvilleDS-2HHot IcePeak Carne CrewPeak S0T craneHot IcePhotographer <t< td=""></t<>
18:00 0:00 6.00 together on lower camp modules. Set top camp modules # 6& 7. Set pile #2. Set platform modules 19 &20 Slurry 46,51,47, & 50. Image: Total 24.00 Hours Hours Equipment Location Personnel In Field KCC Catco 32 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko Res. 2 Catco Loader DS-2H Anadarko Res. 2 Catco Loader DS-2H Catco Loader 9 Peak Light Plants (2) DS-2H Cateoring 3 Mattracks (2) DS-2H Doyon Security 2 RT-85 w/Bus & Fuel Pup Hot Ice Duane Miller 2 RT-85 w/Bus & Fuel Pup Hot Ice Invironmental 1 RT-85 w/360 gal Fuel Hot Ice Nana Dynatec 10 RT-85 w/360 gal Fuel Hot Ice Peak Loader Op 2 Peak Loader Hot Ice Peak Loader Op 2 Peak Loader Hot Ice Peak Loader Op 2 Dumpster - Colville
18:00 0:00 6.00 Set pile #2. Set platform modules 19 &20 Slurry 46,51,47, & 50. Total 24.00 Hours Equipment Cacco 22 Bed Camp DS-2H Anadarko Rep. 2 Catco 32 Bed Camp DS-2H Anadarko HSE Catco 1000000000000000000000000000000000000
Total24.00HoursEquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2Catco LoaderDS-2HAnadarko HSECatco Dickup (2)DS-2HAlaska Clean Seas2Peak Light Plants (2)DS-2HCatco9Peak Light Plants (4)Hot IceCatering3Heater (1)DS-2HDoyon Security2RT-85 w/Bus & Fuel PupHot IceEnvironmental1RT-85 w/Bus & Fuel PupHot IceEnvironmental1RT-85 w/Water HouseHot IceNana Dynatec10RT-85 w/So0 gal FuelHot IcePeak Loader Op2Peak LoaderHot IcePeak Loader Op2Peak SoT craneHot IcePeak Crane Crew8
EquipmentLocationPersonnel In FieldKCCDS-2HCatco 32 Bed CampDS-2HAnadarko Rep.2Catco LoaderDS-2HAnadarko HSECatco Pickup (2)DS-2HAlaska Clean Seas2Peak Light Plants (2)DS-2HCatco9Peak Light Plants (4)Hot IceCatering3Heater (1)DS-2HDenali Drilling3Mattracks (2)DS-2HDoyon Security2RT-85 w/DrillHot IceDuage Miller2RT-85 w/DrillHot IceEnvironmental1RT-85 w/Bus & Fuel PupHot IceMedic1RT-85 w/Bus & Fuel PupHot IceNana Dynatec10RT-85 w/Stog gal FuelHot IcePeak Loader Op2Peak LoaderHot IcePeak Crane Crew8Dumpster - ColvilleDS-2HLounsbury6Catco waterhouseHot IcePhotographer1ManliftHot IcePhotographer1Peak S0T craneHot IcePhotographer1
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Catco LoaderDS-2HAnadarko HSECatco Pickup (2)DS-2HAlaska Clean Seas2Peak Light Plants (2)DS-2HCatco9Peak Light Plants (4)Hot IceCatering3Heater (1)DS-2HDenali Drilling3Mattracks (2)DS-2HDoyon Security2RT-85 w/DrillHot IceDuane Miller2RT-85 w/Bus & Fuel PupHot IceEnvironmental1RT-85 m/Bus & Fuel PupHot IceNana Dynatec10RT-85 w/Water HouseHot IcePeak Loader Op2Peak LoaderHot IcePeak Crane Crew8Dumpster - ColvilleDS-2HLounsbury6Catco waterhouseHot IcePhotographer1ManliftHot IcePhotographer1Peak 50T craneHot IcePhotographer1
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Peak Loader Hot Ice Peak Crane Crew 8 Dumpster - Colville DS-2H Lounsbury 6 Catco waterhouse Hot Ice Photographer 1 Manlift Hot Ice Hot Ice Peak 50T crane
Dumpster - Colville DS-2H Lounsbury 6 Catco waterhouse Hot Ice Photographer 1 Manlift Hot Ice Peak 50T crane Hot Ice
Catco waterhouse Hot Ice Photographer 1 Manlift Hot Ice Image: Catco waterhouse Image: Catco waterhouse Peak 50T crane Hot Ice Image: Catco waterhouse Image: Catco waterhouse
Manlift Hot Ice Peak 50T crane Hot Ice
Peak 50T crane Hot Ice
Heater (5) Hot Ice
8 Bed Sleeper/ Generator DS-2H
Engineering House (2) Hot Ice
150 Ton Crane Hot Ice
85 Ton Crane Hot Ice
Welding Machine Hot Ice 14 38
Lake
Consumables Potable Grey Fuel MO2115 Equipment Down:
Previous Balance 4,500 6,350 492,000 Catco rolligon down due to transmisson.
Received 1,500 0 May get replacement today. Fairweather gener
Days Usage 1,400 3,350 0 down.
Accumulated 21,000 41,944 492,000
On Hand 4,000 3,000 Comments: Plan forward - Continue rigging up camp Install wood deck on platform modules

Comments: Plan forward - Continue rigging up camp. Install wood deck on platform modules

14,15,16,& 17. Start N.U. BOP's. Set water treatment modules

Date: 2/24/2003 Rpt. No. 28

Hot Ice Project **Daily Mobilization & Installation Report**



Present Operation:

Safety:

Wait on weather

Accidents/Injuries: None Reported

Crews conducting Pretour Safety Meetings.

Environmental Incidents: None Reported

From	То	Hours	Code	Activity Ti					
0:00				Slurry piles	# 48 & 49.	Set platform module #21 and slurry pile #2.			
	2:30	2.50					eased nite su	urvey crew.	
2:30	6:00	3.50			np modules				
6:00								units, set cantilever	
								getting power to	
				camp, set o	lecks on mo	odules #18	,19,20,& #2	1. Loundsbury	
				shooting fir	nal as- built.	Start settin	g wood / ste	el deck on module	
	18:00	12.00		#14 and putting up handrails around platform.					
18:00	20:00	2.00				on module #14.			
20:00	0:00	4.00					due to high	wind. Travco	
				wiring in ca	mp to gene	erator.			
	Tatal	04.00							
Fauinmont	Total	24.00	Hours	Personnel	In Field	КСС		n	
Equipment Catco 32 Bed	Comp		Location DS-2H			2	DS-2H		
Catco Loader	Camp		DS-2H DS-2H	Anadarko F Anadarko F		2			
Catco Loader	(2)		DS-2H DS-2H	Alaska Cle		2			
Peak Light Pla			DS-2H DS-2H	Catco	an Seas	2			
Peak Light Pla			Hot Ice	Catering		9 3			
Heater (1)	ints (4)		DS-2H	Denali Drilling					
Mattracks (2)			DS-2H	Doyon Security 2					
RT-85 w/Drill			Hot Ice	Duane Miller		2	1		
RT-85 w/Bus 8	& Fuel Pun		Hot Ice	Environme		1			
RT-85 Tractor			Hot Ice	Medic	itai				
RT-85 w/Wate			Hot Ice	Nana Dyna	tec	10			
RT-85 w/ 3500			Hot Ice	Peak Load		2			
Peak Loader	gair aoi		Hot Ice	Peak Cran					
Dumpster - Co	lville		DS-2H	Lounsbury		3			
Catco waterho			Hot Ice	Travco					
Manlift			Hot Ice	Artic Cateri	na				
Peak 50T cra	ne		Hot Ice	AK Telecor		2			
Heater (5)	-		Hot Ice						
8 Bed Sleeper	/ Generator		DS-2H						
Engineering H			Hot Ice						
150 Ton Crane			Hot Ice						
85 Ton Crane			Hot Ice						
Welding Mach	ine		Hot Ice			10	38		
				_	Lake			-	
Consumables		Potable	Grey	Fuel	MO2115				
Previous Balar	nce	4,000		3,000	492,000				
Received		1,200		0		system popped off, louvor control not working		vor control not	
Days Usage		1,200		1,200	0				
Accumulated		22,200		43,144	492,000				
On Hand	<u> </u>	4,100		8,000		J			

Comments: Continue setting wood deck and handrails. Power to camp. Set water treatment and communication modules on platform.

Date:	2/25/2003	Hot Ice Project	Anadarko [‡]
Rpt. No.	29	Daily Mobilization & Installation Report	
Present Operation:		Digging Out & Setting Wood/Steel Decks	26

Accidents/Injuries: None Reported

Safety: Crews conducting Pretour Safety Meetings.

Environmental Incidents: None Reported

From	То	Hours	Code	Activity Ti	me Summa	ary			
0:00						0 kw gen. set to camp. Camp powered uo at			
							Pressure or	n Halon extinguisher	
	4:30	4.50			hut down g				
4:30	44.00	0.50						from Deadhorse	
14:00	14:00	9.50						wait on high winds. Ion & Fuel Filter	
14:00	20:00	6.00				U U		irs to generator set.	
20:00	20.00	0.00						atec Night Shift	
20.00	24:00	4.00						tor Operation.	
	21.00	1.00		training of	rioution i				
	Total	24.00	Hours						
Equipment			Location	Personnel	In Field	KCC	DS-2H]	
Catco 32 Bed	Camp		DS-2H	Anadarko F		2			
Catco Loader			DS-2H	Anadarko H	ISE				
Catco Pickup			DS-2H	Alaska Clea	an Seas	2			
Peak Light Pla			DS-2H	Catco		9			
Peak Light Pla	ants (4)		Hot Ice	Catering		3			
Heater (1)			DS-2H	Davan Occurity					
Mattracks (2)			DS-2H	Doyon Sec		2			
RT-85 w/Drill			Hot Ice	Duane Mille		1		•	
RT-85 w/Bus 8			Hot Ice	Environme	ntal	1			
RT-85 Tractor		1	Hot Ice	Medic Nana Dyna	+00		1 10		
RT-85 w/Wate			Hot Ice Hot Ice	Peak Load		-	2	•	
RT-85 w/ 3500 Peak Loader	J gai Fuel		Hot Ice	Peak Crane		ł	8	•	
Dumpster - Co	lville		DS-2H	Lounsbury			0		
Catco waterho			Hot Ice	Travco			1		
Manlift			Hot Ice	Artic Cateri	na	1	2	•	
Peak 50T cra	ne		Hot Ice	AK Telecor			2		
Heater (5)			Hot Ice						
8 Bed Sleeper	/ Generator		DS-2H						
Engineering H	louse (2)		Hot Ice						
150 Ton Crane			Hot Ice]	
85 Ton Crane			Hot Ice]	
Welding Mach	line		Hot Ice			7	38		
Consumables	6	Potable	Grey	Fuel	Lake MO2115	Equipmen	t Down:		
Previous Bala		4,000		8,000				nt System On Single	
Received		1,460		-	· · · ·	Generator			
Days Usage		1,200		950	0]			
Accumulated		23,400		44,094	492,000]			
On Hand		4,260		7,050					

<u>Comments</u>: Todays' Activities Plan to Continue setting wood deck and handrails. Set water treatment and communication modules on platform. Install 9 5/8" Riser.

Date:	2/26/2003	Hot Ice Project	Anadarko [‡]
Rpt. No.	30	Daily Mobilization & Installation Report	
Present Ope	eration:	Digging Out & Setting Wood/Steel Decks	26

Present Operation:

Accidents/Injuries: None Reported

Crews conducting Pretour Safety Meetings. Safety:

Environmental Incidents: None Reported

From	То	Hours	Code	Activity Ti	me Summa	ary		
0:00	6:00	6.00		Monitor Ge	nerator Wh	ile Wait On	Weather	
6:00	13:00	7.00		Set Alaska	Telecom C	ommunicati	ons Module	& Sattilite Dish, Set
				Grey Wate	^r Treatment	Unit		
13:00	24:00	11.00		Wait On W	eather, Adju	ust Wood/St	teel Placeme	ent On #8 Module
						er Lines On		
							•	
	Total	24.00	Hours					
Equipment			Location	Personnel	In Field	KCC	DS-2H	
Catco 32 Bed (Camp		DS-2H	Anadarko F	Rep.	2		
Catco Loader			DS-2H	Anadarko H	ISE			
Catco Pickup (2)		DS-2H	Alaska Cle	an Seas	2		
Peak Light Plai			DS-2H	Catco			9	
Peak Light Pla			Hot Ice	Catering			3	
Heater (1)			DS-2H	Doyon Sec	urity	2		
Mattracks (2)			DS-2H	Duane Mille				
RT-85 w/Drill			Hot Ice	Environme	ntal	1		
RT-85 w/Bus &	Fuel Pup		Hot Ice	Medic			1	
RT-85 Tractor	Trailer		Hot Ice	Nana Dyna	tec		10	
RT-85 w/Water	r House		Hot Ice	Peak Load	er Op		2	
RT-85 w/ 3500	gal Fuel		Hot Ice	Peak Cran			8	
Peak Loader			Hot Ice	Lounsbury				
Dumpster - Co	lville		DS-2H	Travco			1	
Catco waterho	use		Hot Ice	Artic Cateri	ng		3	
Manlift			Hot Ice	AK Telecor	n		2	
Peak 50T crar	ne		Hot Ice					
Heater (5)			Hot Ice					
8 Bed Sleeper/	Generator		DS-2H					
Engineering Ho			Hot Ice					
150 Ton Crane	;		Hot Ice					
85 Ton Crane			Hot Ice					
Welding Machi	ne		Hot Ice			7	39	
					Lake			-
Consumables		Potable	Grey	Fuel	MO2115	Equipmen	t Down:	
Previous Balar	ice	4,260		7,050	492,000			nt System On Single
Received		850		-		Generator	Set.	
Days Usage		2,600		2,700	0]		
				46,794	492,000	1		
Accumulated		26,000		-0,73-	452,000			

Comments: Todays' Activities Plan to Continue setting wood deck and handrails.

BOP's, Starter Flange, & Casing Head Enroute From Deadhorse To 2H, Will Install Riser & Nipple Up Next Weather Window. Fuel & Water Storage Conex's Enroute From Deadhorse to 2H/Hot Ice.

Date: 2/27/2003 Rpt. No. 31

Hot Ice Project Daily Mobilization & Installation Report

Testing Well Head & Setting Wood/Steel Decks

Completion of Accommodations Setting



Present Operation:

Accidents/Injuries:

Safety:

Crews conducting Pretour Safety Meetings.

Environmental Incidents: None

None Reported

None Reported

From To	Hours	Code	Activity Ti	ne Summa	ary				
0:00 6:00	6.00				a ry ile Wait On Weather				
6:00 12:00	6.00		Set Potable	Water Sys	tem Skid				
12:00 18:00	6.00		Install 9 5/8	" Riser, Ro	ugh Cut Same, Final Cut & Prep				
18:00 24:00	6.00		Install & W	eld 9 5/8" S	OW Transiti	OW Transition Nipple			
Tatal	24.00	Hauna							
Total Equipment	24.00	Hours Location	Personnel	In Field	КСС	DS-2H	1		
Catco 32 Bed Camp		DS-2H	Anadarko F		2	00-211			
Catco Loader		DS-2H	Anadarko H		-				
Catco Pickup (2)		DS-2H	Alaska Cle		2				
Peak Light Plants (2)		DS-2H	Catco			9			
Peak Light Plants (4)		Hot Ice	Catering			3			
Heater (1)		DS-2H	Doyon Sec	uritv	2				
Mattracks (2)		DS-2H	Duane Mille						
RT-85 w/Drill		Hot Ice	Environme	ntal	1				
RT-85 w/Bus & Fuel Pup		Hot Ice	Medic			1			
RT-85 Tractor Trailer		Hot Ice	Nana Dyna	tec		10			
RT-85 w/Water House		DS-2H	Peak Load			2			
RT-85 w/ 3500 gal Fuel		Hot Ice	Peak Cran	e Crew		8			
Peak Loader		Hot Ice	Lounsbury						
Dumpster - Colville		DS-2H	Travco			1			
			Artic Cateri			3			
Manlift		Hot Ice	AK Telecor			2			
Peak 50T crane		Hot Ice	APC Visito	S	3				
Heater (5)		Hot Ice							
8 Bed Sleeper/ Generator		DS-2H							
Engineering House (2)		Hot Ice							
150 Ton Crane		Hot Ice							
85 Ton Crane		Hot Ice							
Welding Machine		Hot Ice		Laba	10	39			
Consumables	Potable	Grey	Fuel	Lake MO2115	Equipmen				
Previous Balance	4,260		7,050	492,000	R-200 Fire	Suppressar	nt System On Single		
Received	850		-		Generator	Set.	-		
Days Usage	2,600		2,700	0]				
Accumulated	26,000		46,794	492,000]				
On Hand	2,510		4,350						

Comments: Received Drill Rig, Water Conex, Fuel Conex.

Shipped Three Water Houses & One Fairweather Warm Up Shack back to DS-2H.

Date: 2/28/2003 Rpt. No. 32

Hot Ice Project Daily Mobilization & Installation Report



Present Operation:

Working on deck

Accidents/Injuries: None Reported

Safety:

Crews conducting Pretour Safety Meetings. S Freemyer conducted safety meeting with crane operators.

Environmental Incidents: None Reported

0:00 6:00 6:00 18:00 6:00 18:00 12:00 Transiton Nipple Insulated & Cooling, Set Four Laboratory Units Test Weithead, Failed, Reweld & Tested, Install word decking on Modules 15 & 16, Installing Riser Seal Assembly, Install North Accommodation Second Level Landing Setting wood and steel decking on 16-17 and finish 14. Transport potable water truck from 2h. Fill potable system with 3800 gal. water. Clean up around edge of location. Remove spacer from core labs. Total 24:00:00 6:00 Personnel In Field KCC DS-2H Quipment Gato 32 Bed Camp DS-2H Anadarko Rep. 2 Catco locader Catco Icoader Peak Light Plants (2) DS-2H Anadarko Res 2 Peak Light Plants (2) DS-2H Anadarko HSE 9 Peak Light Plants (4) Hot Ice Hot Ice Catering 3 Heater (1) DS-2H Days Rull Res 1 Mattracks (2) DS-2H Days Rull Res 1 RT-85 Will Hot Ice Mediaer 1 RT-85 Will Hot Ice Mediaer 1 RT-85 Will Hot Ice Mediaer 1 RT-85 Will Hot Ice Res 2 1 RT-	From	То	Hours	Code	Activity Ti									
18:00 12:00 12:00 Modules 15 & 16, Installing Riser Seal Assembly, Install North Accommodation Second Level Landing Setting wood and steel decking on 16:-17 and finish 14. Transport potable water ruck from 2h. Fill potable system with 3800 gal. water. Clean up around edge of location. Remove spacer from core labs. Total 24:00:00 6.00 Hours Equipment Location Personnel In Field KCC Catco 32 Bed Camp DS:2H Anadarko Rep. 2 Catco 10 adder DS:2H Anadarko Rep. 2 Catco 10 adder DS:2H Anadarko HSE		6:00	6.00											
18:00 12:00 12:00 Accommodation Second Level Landing Setting wood and steel decking on 16: 17 and finish 14. Transport potable water truck from 2h. Fill potable system with 3800 gal. water. Clean up around edge of location. Remove spacer from core labs. Total 24:00:00 6.00 6.00 Equipment Location Personnel In Field KCC DS-2H Zato Zamp DS-2H Anadarko Rep. 2 Cato Loader DS-2H Anadarko Rep. 2 Peak Light Plants (2) DS-2H Anadarko Rep. 3 Heater (1) DS-2H Duane Miller R1-85 Trauler 1 R1-85 Nand Dynatec	6:00							,	5					
18:00 Setting wood and steel decking on 16-77 and finish 14. Transport potable water truck from 2h. Fill potable system with 3800 gal. water. Clean up around edge of location. Remove spacer from core labs. Equipment Location Personnel In Field KCC DS-2H Catoo 32 Bed Camp DS-2H Anadarko Rep. 2 Catoo Loader DS-2H Anadarko Rep. 2 Catoo Loader DS-2H Anadarko HSE							stalling Riser Seal Assembly, Install North							
Z4:00:00 6.00 Transport potable water truck from 2h. Fill potable system with 3800 gal. water. Clean up around edge of location. Remove spacer from core labs. Total Z4:00:00 6.00 Fill potable system with 3800 gal. water. Clean up around edge of location. Remove spacer from core labs. Equipment Location Personnel In Field KCC DS-2H Catco 32 Bed Camp DS-2H Anadarko Rep. 2 Consumation of the system with 100 models and the system of the system		18:00	12.00				nd Level Landing							
24:00:00 6.00 3800 gal. water. Clean up around edge of location. Remove spacer from core labs. Total 24:00:00 6.00 3800 gal. water. Clean up around edge of location. Remove spacer from core labs. Equipment Location Personnel In Field KCC DS-2H Catco 32 Bed Camp DS-2H Anadarko Rep. 2 1 Catco 10 Catco Pickup (2) DS-2H Anadarko HSE 1 1 Peak Light Plants (2) DS-2H Alaska Clean Seas 2 9 Peak Light Plants (2) DS-2H Catco 9 9 Peak Light Plants (4) Hot Ice Catco 9 9 Mattracks (2) DS-2H Duone Miller 1 1 RT-85 wDrnil Hot Ice Medic 1 1 RT-85 wDrsus & Fuel Pup Hot Ice Nana Dynatec 10 1 RT-85 wJ 3500 gal Fuel Hot Ice Nana Dynatec 1 1 RT-85 wJ 3500 gal Fuel Hot Ice Lawder Op 2 2 Dumpster - Colville DS-2H	18:00													
Total 24:00:00 6.00 from core labs. Equipment Location Personnel In Field KCC DS-2H Catco 32 Bed Camp DS-2H Anadarko Rep. 2														
Total 24.00 Hours Equipment Location Personnel In Field KCC DS-2H Catco 32 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko HSE							up around e	edge of loca	tion. Remove spacer					
Equipment Location Personnel In Field KCC DS-2H Catco 23 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko Rep. 2 Catco Dickup (2) DS-2H Anadarko HSE		24:00:00	6.00		from core la	abs.								
Equipment Location Personnel In Field KCC DS-2H Catco 23 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko Rep. 2 Catco Dickup (2) DS-2H Anadarko HSE														
Equipment Location Personnel In Field KCC DS-2H Catco 23 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko Rep. 2 Catco Dickup (2) DS-2H Anadarko HSE														
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Equipment Location Personnel In Field KCC DS-2H Catco 23 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko Rep. 2 Catco Dickup (2) DS-2H Anadarko HSE		Tatal	04.00											
Catco 32 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko HSE	Equipmont	lotal	24.00		Porconnol	In Field	KCC	D6 30	ı					
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Catco Pickup (2) DS-2H Alaska Clean Seas 2 Peak Light Plants (2) DS-2H Catco 9 Peak Light Plants (2) DS-2H Catering 3 Heater (1) DS-2H Doyon Security 2 Mattracks (2) DS-2H Duane Miller 1 RT-85 w/Bus & Fuel Pup Hot Ice Environmental 1 RT-85 tractor Trailer Hot Ice Nana Dynatec 10 RT-85 w/300 gal Fuel Hot Ice Nana Dynatec 10 RT-85 w/300 gal Fuel Hot Ice Peak Carne Crew 8 Peak Loader Hot Ice Lounsbury		Camp					2							
Peak Light Plants (2) DS-2H Catco 9 Peak Light Plants (4) Hot Ice Catering 3 Heater (1) DS-2H Doyon Security 2 Mattracks (2) DS-2H Duane Miller 1 RT-85 w/Drill Hot Ice Environmental 1 RT-85 w/Bus & Fuel Pup Hot Ice Medic 1 RT-85 w/Bus & Fuel Pup Hot Ice Nana Dynatec 10 RT-85 ractor Trailer Hot Ice Nana Dynatec 10 RT-85 w/ 3500 gal Fuel Hot Ice Peak Loader Op 2 Dumpster - Colville DS-2H Travco 1 Dumpster - Colville DS-2H Travco 1 Manlift Hot Ice Artic Catering 3 Manlift Hot Ice Artic Catering 3 Heater (5) Hot Ice 1 8 Bed Sleeper/ Generator DS-2H 1 150 Ton Crane Hot Ice 10 39 Welding Machine Hot Ice		(2)					2							
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Heater (1) DS-2H Doyon Security 2 Matracks (2) DS-2H Duane Miller Image: Construct of the second sec	¥	1 /						-						
Mattracks (2) DS-2H Duane Miller Image: Constraint of the system of						urity	2	•	•					
RT-85 w/Drill Hot Ice Environmental 1 RT-85 w/Bus & Fuel Pup Hot Ice Medic 1 RT-85 Tractor Trailer Hot Ice Nana Dynatec 10 RT-85 w/Water House DS-2H Peak Loader Op 2 RT-85 w/ 3500 gal Fuel Hot Ice Peak Crane Crew 8 Peak Loader Hot Ice Lounsbury 1 Dumpster - Colville DS-2H Travco 1 Manlift Hot Ice Akrtic Catering 3 Manlift Hot Ice APC Visitors 3 Heater (5) Hot Ice APC Visitors 3 Bed Sleeper/ Generator DS-2H Image: Consumables Image: Consumables Potable Grey Fuel MO2115 Equipment Down: R-200 T,050 492,000 R-200 Fire Suppressant System On Single Received 1,300 - Image: Consumables Image: Consumables Previous Balance 4,260 7,050 492,000 Generator Set. Days Usage<							_							
RT-85 w/Bus & Fuel Pup Hot Ice Medic 1 RT-85 Tractor Trailer Hot Ice Nana Dynatec 10 RT-85 Tractor Trailer DS-2H Peak Loader Op 2 RT-85 w/ 3500 gal Fuel Hot Ice Peak Crane Crew 8 Peak Loader Hot Ice Lounsbury 1 Dumpster - Colville DS-2H Travco 1 Manlift Hot Ice Akt Telecom 2 Peak 50T crane Hot Ice AKT Telecom 2 Peak 50T crane Hot Ice AKT Telecom 2 Rt-85 U/Son Crane Hot Ice AKT Telecom 2 Reaker (5) Hot Ice AKT Telecom 2 8 Bed Sleeper/ Generator DS-2H Image: State S					Environme	ntal	1							
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RT-85 w/Water House DS-2H Peak Loader Op 2 RT-85 w/ 3500 gal Fuel Hot Ice Peak Crane Crew 8 Peak Loader Hot Ice Lounsbury 1 Dumpster - Colville DS-2H Travco 1 Malift Hot Ice Artic Catering 3 Manlift Hot Ice AKT Catering 3 Peak 50T crane Hot Ice APC Visitors 3 Heater (5) Hot Ice APC Visitors 3 8 Bed Sleeper/ Generator DS-2H					Nana Dyna	itec		10						
Peak Loader Hot Ice Lounsbury 1 Dumpster - Colville DS-2H Travco 1 Artic Catering 3 3 Manlift Hot Ice AK Telecom 2 Peak 50T crane Hot Ice AK Telecom 2 Peak 50T crane Hot Ice ARIC 3 Heater (5) Hot Ice ARIC 3 Bed Sleeper/ Generator DS-2H Image: Comparison of the tempole 1 150 Ton Crane Hot Ice Image: Comparison of the tempole 10 39 Welding Machine Hot Ice Image: Comparison of the tempole 10 39 Consumables Potable Grey Fuel MO2115 Equipment Down: Previous Balance 4,260 7,050 492,000 R-200 Fire Suppressant System On Single Received 1,300 - Generator Set. Generator Set. Days Usage 1,300 1,000 Accumulated 27,300 46,794 492,000 On Hand 4,000	RT-85 w/Wate	er House						2						
Dumpster - ColvilleDS-2HTravco1Artic Catering3ManliftHot IceAK Telecom2Peak 50T craneHot IceAPC Visitors3Heater (5)Hot IceAPC Visitors3Bed Sleeper/ GeneratorDS-2HImage: Construct of the state o	RT-85 w/ 3500) gal Fuel		Hot Ice	Peak Cran	e Crew		8	1					
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150 Ton Crane Hot Ice Image: constraint of the second sec														
85 Ton Crane Hot Ice Image: consumables Hot Ice 10 39 Welding Machine Hot Ice Image: consumables Potable Grey Fuel MO2115 Equipment Down: Previous Balance 4,260 7,050 492,000 R-200 Fire Suppressant System On Single Received 1,300 - Generator Set. Days Usage 1,300 1,000 Generator Set. Accumulated 27,300 46,794 492,000 On Hand 4,000 6,900 File														
Welding Machine Hot Ice 10 39 Consumables Potable Grey Fuel MO2115 Equipment Down: Previous Balance 4,260 7,050 492,000 R-200 Fire Suppressant System On Single Received 1,300 - Generator Set. Days Usage 1,300 46,794 492,000 Accumulated 27,300 46,794 492,000 On Hand 4,000 6,900 Accumulated		e												
ConsumablesPotableGreyFuelMO2115Equipment Down:Previous Balance4,2607,050492,000R-200 Fire Suppressant System On SingleReceived1,300-Generator Set.Days Usage1,3001,000AccumulatedAccumulated27,30046,794492,000On Hand4,0006,900Accumulated														
Consumables Potable Grey Fuel MO2115 Equipment Down: Previous Balance 4,260 7,050 492,000 R-200 Fire Suppressant System On Single Received 1,300 - Generator Set. Days Usage 1,300 46,794 492,000 Accumulated 27,300 46,794 492,000 On Hand 4,000 6,900 -	Welding Mach	ine		Hot Ice	ļ									
Previous Balance 4,260 7,050 492,000 R-200 Fire Suppressant System On Single Received 1,300 - Generator Set. Days Usage 1,300 1,000 Accumulated 27,300 46,794 492,000 On Hand 4,000 6,900 6,900 Accumulated Accumulated </td <td></td> <td></td> <td>D</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>			D											
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Days Usage 1,300 1,000 Accumulated 27,300 46,794 492,000 On Hand 4,000 6,900 4000		nce				492,000			it System On Single					
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On Hand 4,000 6,900		-				402.000	4							
		-				492,000	4							
		Charge and his		ator eveter			J							

Date: 3/1/2003 Rpt. No. 33 Hot Ice Project Daily Mobilization & Installation Report



Present Operation:

Accidents/Injuries: None Reported

Safety:

Environmental Incidents: None R

None Reported

Nipple up BOP

0:00 Install Wood/Steel Decks, Filed Lake Water Tank & Chlorinated Protable Water System, Pressured Up Accommodation Water System, Repaired Leaks, Charged & Pickled Water System, Pressured Up Accommodation Water System, Repaired Leaks, Charged & Pickled Water System, Set 40° Centerator, Set 40° Fotable, 40° Leut Units. Nippled Up Tubing Spool. Mud Cross & Double, Rams, Tested Tubing Spool. Mud Cross & Double Rama, Tested Tubing Spool. Mud Cross & Double Rams, Tested Tubing S	From	То	Hours	Code	Activity Ti	me Summa	ary				
9:00 9:00 9:00 System, Repaired Leaks, Charged & Pickled Water System For 24 Hour Period Commencing at 0200 Hours. 9:00 12:00 3:00 Repositioned Alaska Telecom Equipment & Set Core Storage Unit Conducted Prejob Heavy Lift Safety Meeting, Set 40 Generator, Set 40 Prelable, 40 Fuel Units. Nippled Up Tubing Spool. Mud Cross & Double Rams. Tested Tubing Spool. Mud Rams (2) Teste With Plants (2) DS-2H Anadarko HSE Equipment Catco Loader I Feat Light Plants (2) DS-2H Anadarko HSE RT-85 wWDrill Hot Ice Ewing Mud Rams Plant Plants In In RT-85 wWDrill Hot Ice Nama	0:00				Install Woo	d/Steel De	cks, Filled La	ake Water T	ank & Chlorinated		
9:00 9:00 9:00 24 Hour Period Commencing at 2020 Hours. 9:00 12:00 3:00 Repositioned Alaska Telecom Equipment & Set Core Storage Unit Conducted Prejob Heavy Lift Safety Meeting, Set 40 Generator, Set 40 Potable, 40 Fuel Units. Nippled Up Tubing Spool Mud Cross & Double Rams. Tested Tubing Spool Metal Seal To 1,000 psi. Install Access Stairway To Accommodations. 18:00 18:30 0.50 Pretour Safety Meeting Set transformer on platform. Set gen. daytank on platform. Continue to nipple up BOP. Work on camp water system. Equipment Location Personnel In Field KCC DS-2H Catco 22 Bed Camp DS-2H Anadarko Rep. 2 Catco Cickup (2) DS-2H Anadarko Rep. 2 Peak Light Plants (2) DS-2H Aladarko Rep. 2 Peak Light Plants (4) Hot Ice Catering 3 Heater (1) DS-2H Doyon Security 2 Mattracks (2) DS-2H Peak Light Plants (4) Hot Ice RT-85 w/Dail & Fuel Pup Hot Ice Medic 1 RT-85 w/Dail & Fuel Pup Hot Ice Nan Dynatec 10 RT-85 w/Dail & Fuel Pup Hot					Potable Wa	ater System	 Pressured 	Up Accomn	nodation Water		
9:00 12:00 3:00 Repositioned Alaska Telecom Equipment & Set Core Storage Unit Conducted Prejob Heavy Lift Safety Meeting, Set 40' Generator, Set 40' Potable, 40' Fuel Units. Nippled Up Tubing Spool. Mud Cross & Double Rams. Tested Tubing Spool Metal Seal To 1,000 psi. Install Access Stairway To Accommodations. Pretour Safety Meeting 18:00 18:30 0.50 Set 40' Potable, 40' Fuel Units. Nippled Up Tubing Spool. Mud Cross & Double Rams. Tested Tubing Spool Metal Seal To 1,000 psi. Install Access Stairway To Accommodations. Pretour Safety Meeting 18:00 18:30 0.50 Set transformer on platform. Set gen. daytank on platform. Continue to nipple up BOP. Work on camp water system. Equipment Location Personnel In Field KCC DS-2H Catco Loader DS-2H Anadarko Rep. 2 Catco Cato Cader 9 Catco Coader DS-2H Anadarko HSE Catco Cader 9 Peak Light Plants (4) Hot Ice Catco Cate 9 Peak Light Plants (2) DS-2H Duane Miller 1 RT-85 WBus & Fuel Pup Hot Ice Nama Dynatec 10 RT-85 WOrlil Hot Ice Nama Dynatec 10 RT-85 Worlite DS-2H Peak Loader Op 2					System, Re	epaired Lea	iks, Chargeo	& Pickled V	Vater System For		
12:00 18:00 6.00 Conducted Prejob Heavy Lift Serie Meeting, Set 40' Generator, Set 40' Potable, 40' Fuel Units. Nippled Up Tubing Spool, Mud 18:00 18:30 0.50 Set 40' Potable, 40' Fuel Units. Nippled Up Tubing Spool, Mud 18:03 0:00 5.50 Pretour Safety Meeting. Set transformer on platform. Set gen. daytank on platform. Continue to nipple up BOP. Work on camp water system. Continue to nipple up BOP. Work on camp water system. Catco 23: Bed Camp DS-2H Anadarko Rep. 2 Catco Clokup (2) DS-2H Anadarko Rep. 2 Catco Clokup (2) DS-2H Anadarko Rep. 2 Peak Light Plants (2) DS-2H Cateo Rep. 9 Peak Light Plants (2) DS-2H Cateo Rep. 9 Peak Light Plants (2) DS-2H Cateo Rep. 1 Matracks (2) DS-2H Dase Rep. 2 Matracks (2) DS-2H Cateo Rep. 2 Matracks (2) DS-2H Cateo Rep. 2 Matracks (2) DS-2H Peak Light Plants (4) Hot Ice T-85 w/Ds & Fuel Pup Hot Ice Meeting. 1		9:00	9.00		24 Hour Pe	eriod Comm	nencing at 02	200 Hours.			
18:00 18:30 0.50 18:03 18:30 0.50 18:03 0:00 5.50 Set 40' Potable, 40' Fuel Units. Nippled Up Tubing Spool, Mud Cross & Double Rams. Tested Tubing Spool Metal Seal To 1,000 psi. Install Access Stairway To Accommodations. Pretour Safety Meeting Total 24.00 Hours Equipment Location Catco 32 Bed Camp DS-2H Catco Loader DS-2H Catco Loader DS-2H Catco Coloder DS-2H Catco Loader DS-2H Catco Loader DS-2H Catco Coloder DS-2H Catco Coloder 0 Mattracks (2) DS-2H Das 2H Dag and Miler RT-85 w/Bus & Fuel Pup Hot Ice Hot Ice Environmental 1 1 RT-85 w/JSto0 gal Fuel Hot Ice Peak Light Plants (2) DS-2H Peak Logder Trailer Hot Ice Rt-85 Tractor Trailer Hot Ice Number 4 Hot Ice Rt-85 Tractor Trailer Hot Ice Number 4 DS-2H Peak Loader Op 2 Rt-85 Tractor Trailer Hot Ice Number 4 Hot Ice <td>9:00</td> <td>12:00</td> <td>3.00</td> <td></td> <td>Reposition</td> <td>ed Alaska 1</td> <td>Γelecom Eqι</td> <td>uipment & Se</td> <td>et Core Storage Unit</td>	9:00	12:00	3.00		Reposition	ed Alaska 1	Γelecom Eqι	uipment & Se	et Core Storage Unit		
18:00 18:30 0.50 Cross & Double Rams. Tested Tubing Spool Metal Seal To 1,000 psi. Install Access Staiway To Accommodations. Pretour Safety Meeting 18:03 0:00 5.50 Pretour Safety Meeting Set transformer on platform. Set gen. daytank on platform. Continue to nipple up BOP. Work on camp water system. Catco 22 Bed Camp DS-2H Anadarko Rep. 2 Catco Coder DS-2H Anadarko Rep. 2 Catco Coder DS-2H Anadarko Rep. 2 Catco Coder DS-2H Anadarko Rep. 2 Catco Pickup (2) DS-2H Alaska Clean Seas 2 Peak Light Plants (2) DS-2H Alaska Clean Seas 2 Peak Light Plants (4) Hot Ice Catco Pickup (2) 3 Mattracks (2) DS-2H Duane Miller 1 RT-85 w/Drill Hot Ice Environmental 1 RT-85 w/Dater House DS-2H Peak Loader Op 2 Dumpster - Colville DS-2H Travco 1 Dumpster - Colville DS-2H Travco 1 Date Surge Soo gal Fuel Hot Ice Artic Catering 3 <td>12:00</td> <td>18:00</td> <td>6.00</td> <td></td> <td>Conducted</td> <td>Prejob Hea</td> <td>avy Lift Safe</td> <td>ty Meeting,</td> <td>Set 40' Generator,</td>	12:00	18:00	6.00		Conducted	Prejob Hea	avy Lift Safe	ty Meeting,	Set 40' Generator,		
18:00 18:30 0.50 psi. Install Access Stairway To Accommodations. 18:03 0:00 5.50 Pretour Safety Meeting Set transformer on platform. Set gen. daytank on platform. Continue to nipple up BOP. Work on camp water system. Equipment Location Catco 32 Bed Camp DS-2H Anadarko Rep. 2 Catco Loader DS-2H Catco Codder DS-2H Catco Ident DS-2H Catco Ident DS-2H Catco S2 Bed Camp DS-2H Anadarko Rep. 2 Catco Ident DS-2H Anadarko Rep. 2 Catco Ident DS-2H Anadarko Rep. 2 Mattracks (2) DS-2H DS-2H Data Catco Mattracks (2) DS-2H Duane Miller 1 RT-85 w/Bus & Fuel Pup Hot Ice Mattracks (2) DS-2H Dumpster - Colville DS-2H DS-2H Peak Loader Op Dumpster - Colville DS-2H DS-2H Peak Loader					Set 40' Pot	able, 40' Fu	uel Units. Nij	opled Up Tu	bing Spool, Mud		
18:00 18:30 0.50 Pretour Safety Meeting Set transformer on platform. Set gen. daytank on platform. Continue to nipple up BOP. Work on camp water system. Total 24.00 Hours Equipment Location Personnel In Field KCC Catco 10:02 DS-2H Anadarko Rep. 2 Catco 10:04er DS-2H Anadarko Rep. 2 Catco Loader DS-2H Anadarko HSE					Cross & Do	buble Rams	. Tested Tu	bing Spool N	letal Seal To 1,000		
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Accumulated 28,100 46,794 492,000						492 000					
On Hand 4,000 5,500						102,000					
Comments: Pump pickled water from potable tank through camp to grey water tank.		Pump nickled		table tank		mp to arev	J water tank				

Date: 3/2/2003 Rpt. No. 34 Hot Ice Project Daily Mobilization & Installation Report



Present Operation:

Installing rotating head.

Accidents/Injuries: None Reported

Safety:

Environmental Incidents: None Reported

Hours Code **Activity Time Summary** From То Continue to nipple up BOP. Wind to high to use crane.Work on 0:00 6:00 6.00 camp water unit. 6:00 Modify diesel tank door to clear AT dish skid. 18:00 12.00 Clean kitchen in camp while waiting on wind. 18:00 24:00 6.00 Install Choke & Kill Line Valves on BOPE, Install Rotating Head Cranes Resumed Operations At 0400 Hrs. Total 24.00 Hours KCC Location Personnel In Field DS-2H Equipment DS-2H Catco 32 Bed Camp Anadarko Rep. 2 DS-2H Anadarko HSE Catco Loader Catco Pickup (2) DS-2H Alaska Clean Seas 2 Catco 9 Peak Light Plants (2) DS-2H Peak Light Plants (4) Catering 3 Hot Ice Heater (1) DS-2H Doyon Security 2 Duane Miller Mattracks (2) DS-2H Environmental RT-85 w/Drill Hot Ice 1 RT-85 w/Bus & Fuel Pup Hot Ice Medic 1 Nana Dynatec 10 RT-85 Tractor Trailer Hot Ice RT-85 w/Water House DS-2H Peak Loader Op 2 Peak Crane Crew 8 RT-85 w/ 3500 gal Fuel Hot Ice Peak Loader Hot Ice _ounsbury Dumpster - Colville DS-2H Travco 1 Artic Catering 3 Manlift Hot Ice AK Telecom 2 Peak 50T crane Hot Ice APC Visitors 3 Heater (5) Hot Ice 8 Bed Sleeper/ Generator DS-2H Engineering House (2) Hot Ice 150 Ton Crane Hot Ice 85 Ton Crane Hot Ice Welding Machine 10 39 Hot Ice Lake MO2115 Consumables Potable Grey Fuel Equipment Down: Previous Balance 4,000 5,500 492,000 R-200 Fire Suppressant System On Single Received 6,926 3,000 Generator Set. -1,400 4,526 Days Usage 495,000 Accumulated 28,100 53,720 On Hand 5,500 7,900 Comments: Filling water tank with lake water.

Date: 3/3/2003 Rpt. No. 35

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Enclosing lower ends of camp units.

Accidents/Injuries: None Reported

Safety:

Environmental Incidents: None Reported

Code Activity Time Summary From То Hours Finish installing rotating head.Wind died down, started crane 0:00 work @ 04:00. Set aluminum spacers for cellar on platform. 6:00 6.00 Dowell pins and holes in spacers do not line up. 6:00 Cut off aluminum pins, install spacers. Set lower sub base skid and attach sides. Set and center sub base. Set andh ook up two 12.00 18:00 500 k gen sets. 18:00 Set third 500k gen. set on top of grey water tank. Set incinerator on platform. Catco delivered groceries for camp. Set groceries on 0:00 6.00 deck and put in cooler and freezer. Arctic catering staff are in camp and camp will be opened today. Total 24.00 Hours Location Personnel In Field KCC DS-2H Equipment Catco 32 Bed Camp DS-2H Anadarko Rep. 2 DS-2H Anadarko HSE Catco Loader Catco Pickup (2) DS-2H Alaska Clean Seas 2 Catco Peak Light Plants (2) DS-2H 9 Catering Peak Light Plants (4) 3 Hot Ice Heater (1) DS-2H Doyon Security 2 Duane Miller Mattracks (2) DS-2H Environmental RT-85 w/Drill Hot Ice 1 RT-85 w/Bus & Fuel Pup Hot Ice Medic 1 RT-85 Tractor Trailer Hot Ice Nana Dynatec 10 RT-85 w/Water House DS-2H Peak Loader Op 2 Peak Crane Crew 8 RT-85 w/ 3500 gal Fuel Hot Ice Peak Loader Hot Ice _ounsbury Dumpster - Colville DS-2H Travco 1 Artic Catering 3 Manlift Hot Ice AK Telecom 2 Peak 50T crane Hot Ice APC Visitors 3 Hot Ice Heater (5) 8 Bed Sleeper/ Generator DS-2H Engineering House (2) Hot Ice 150 Ton Crane Hot Ice 85 Ton Crane Hot Ice Welding Machine 10 Hot Ice 39 Lake MO2115 Consumables Potable Grey Fuel Equipment Down: Previous Balance 4,000 5,500 492,000 R-200 Fire Suppressant System On Single Received 6,926 3,000 Generator Set. -Days Usage 1,400 4,526 495,000 Accumulated 28,100 53,720 On Hand 5,500 7,900 Northern testing lab passed water samples and potable water system is ready for camp operation. Comments:

Date: 3/4/2003 Rpt. No. 36 Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Preparing to set reserve mud unit,

Accidents/Injuries: None Reported

Safety: Pre-job safety meetings at the start of each tour. Pre-job safety meeting for heavy lift of rig unit.

Environmental Incidents: None Reported

0:00 6:00 6.00 Install wood and insulation on east side of lower camp modules 1, 2, & 3 for freeze protection. 6:00 6:00 8.00 Start drill and warm hydraulic system. Install jack legs. Set drill on platform. Install rorse-bracing and leg clamps. Repair/replace left rear track on M4Track unt #1. Electricians installing cable trays and connecting 3 rd gen. set. Run power to incinerator and start-up same. Equipment Location Personnel In Field KCC DS-2H Hotice Catco 128 Bed Camp DS-2H Anadarko Rep. 2 2 2 Catco 128 Ded Camp DS-2H Anadarko Rep. 2 2 2 Catco Loader DS-2H Anadarko HSE 1 2 2 2 Peak Light Plants (2) DS-2H Doyon Security 2 2 2 Mattracks (2) DS-2H Doyon Security 2 2 2 Mattracks (2) DS-2H Peak Light Plants (4) Hot Ice 1 1 R1-85 Willis Fuel Pup Hot Ice Medic 1 1 R1-85 Willis Fuel Keight Plants (2) DS-2H <	From	То	Hours	Code	Activity Ti	me Summa	ary						
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drill on platform. Install cross-fracing and leg clamps. Repair/replace left rear track on MatTrack unit #1. 24:00:00 18:00 Total 24:00 18:00 Repair/replace left rear track on MatTrack unit #1. Electricians installing cable trays and connecting 3 rd gen. set. Run power to incinerator and start-up same. Equipment Location Catco 32 Bed Camp DS-2H Anadarko Rep. 2 Catco 12 Bed Camp DS-2H Anadarko Rep. 1 Catco 2 Bed Camp DS-2H Anadarko HSE 1 Catco Dickup (2) DS-2H Anadarko HSE 1 Peak Light Plants (2) DS-2H Anadarko HSE 1 Peak Light Plants (4) Hot Ice Gatoo Dickup (2) DS-2H Dase Burb I Doyon Security RT-85 wDrill Hot Ice Matracks (2) DS-2H Duane Miller 1 RT-85 wVarb Rubus & Fuel Pup Hot Ice Net Structor Trailer Hot Ice Net Structor Trailer Hot Ice		6:00	6.00		2, & 3 for fr	eeze proteo	ction.						
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On Hand 8,100 4,795 Comments: Start up camp kitchen. Move 20 people from Catco and KCC camps to HOTICE camp.		011]						

Date: 3/5/2003 Rpt. No. 37

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Prepare to set set mud tank section

Accidents/Injuries: None Reported

Safety: Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

Peak 50T craneHot IceAPC VisitorsImage: constraint of the system of the	From	То	Hours	Code	Activity Tir	ne Summary	/				
6:00:00 18:00:00 12:00 Worked on fuel lines. Covered rig with canvas and run heater hoses to keep equip. warm. Work on parts house to prepare for lift. Compl. cable trays and ran 240/VAC to Alaska Telecom. Alaska Telecom installing gait jurionics and data pts. in Drig. office. Set MSS unit. Noted conflict with MSS outlets and deck opening Reposition MSS outlets and deck opening Reposition MSS unit and open up deck section to accept mud line "U" tube. Reset doghouse. Realign for final positioning on fuel storage conex, core handling unit, and reserve mud storage. Clean out snow and vacuum snow out of instrumentation in lab modules. Total 24:00:00 6:00 Total 24:00 Total 24:00 Personnel In Field KCC DS-2H Anadarko Rep. Catoo Loader Catoo Ised comp DS-2H Anadarko HSE Catoo Ised comp DS-2H Anadarko HSE Catoo Ised comp DS-2H Anadarko HSE Catoo New (2) DS-2H Anadarko HSE Catoo New (2) DS-2H Anadarko HSE Catoo New (2) DS-2H Anadarko HSE<	0:00:00							oning with fu	el storage co	onex	
18:00:00 12:00 hoses to keep equip. warm. Work on parts house to prepare for lift. Compl. cable trays and ran 240ACt 0. Alaska Telecom. Alaska Telecom installing gal-tronics and data pts. in Drig. Alaska Telecom installing gal-tronics and data pts. in Drig. Set MGS unit. Noted conflict with MGS outlets and deck opening Reposition MGS unit and open up deck section to accept mud line "U" tube. Reset doghouse. Realing for final positioning on fuel storage conex, core handling unit, and reserve mud storage. Clean out snow and vacuum snow out of Instrumentation in lab modules. Total 24:00:00 6.00 Feedback Core Analign for final positioning on fuel storage conex, core handling unit, and reserve mud storage. Clean out snow and vacuum snow out of Instrumentation in lab modules. Total 24:00:00 6.00 Personnel In Field KCC DS-2H Hotice Catco OLoader DS-2H Anadarko Rep. 2 2 2 Catco Ioader DS-2H Anadarko Rep. 2 2 2 Catco Ioader DS-2H Anadarko Rep. 9 2 2 Peak Light Plants (2) DS-2H Catco 9 9 2 Peak Light Plants (4) Hot Ice Global Catering 3 3 2 2 Heater (1) DS-2H Doyon Security 2 1 1		6:00:00	6.00		for angle iro	on tab alignm					
18:00:00 12:00 hoses to keep equip. warm. Work on parts house to prepare for lift. Compl. cable trays and ran 240ACt 0. Alaska Telecom. Alaska Telecom installing gal-tronics and data pts. in Drig. Alaska Telecom installing gal-tronics and data pts. in Drig. Set MGS unit. Noted conflict with MGS outlets and deck opening Reposition MGS unit and open up deck section to accept mud line "U" tube. Reset doghouse. Realing for final positioning on fuel storage conex, core handling unit, and reserve mud storage. Clean out snow and vacuum snow out of Instrumentation in lab modules. Total 24:00:00 6.00 Feedback Core Analign for final positioning on fuel storage conex, core handling unit, and reserve mud storage. Clean out snow and vacuum snow out of Instrumentation in lab modules. Total 24:00:00 6.00 Personnel In Field KCC DS-2H Hotice Catco OLoader DS-2H Anadarko Rep. 2 2 2 Catco Ioader DS-2H Anadarko Rep. 2 2 2 Catco Ioader DS-2H Anadarko Rep. 9 2 2 Peak Light Plants (2) DS-2H Catco 9 9 2 Peak Light Plants (4) Hot Ice Global Catering 3 3 2 2 Heater (1) DS-2H Doyon Security 2 1 1	6.00.00				Worked on	fuel lines Cr	overed ria wi	th canvas ar	nd run heate	ar	
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24:00:00 6.00 modules. Total 24.00 Hours Equipment Location Personnel In Field KCC DS-2H Hotice Cateo Loader DS-2H Anadarko Rep. 2 2 Cateo Loader DS-2H Anadarko Rep. 2 Cateo Deckup (2) DS-2H Anadarko Rep. 1 Peak Light Plants (2) DS-2H Cateo Cateo 9 Peak Light Plants (2) DS-2H Cateo Cateo 9 Peak Light Plants (2) DS-2H Dogon Security 2 Mattracks (2) DS-2H Dogon Security 2 Mattracks (2) DS-2H Dogon Security 2 Mattracks (2) DS-2H Peak Loader 1 RT-85 w/Dave House DS-2H Peak Loader Op 2 RT-85 w/ 3500 gal Fuel Hot Ice Nana Dynatec 6 5 RT-85 w/ 3500 gal Fuel Hot Ice Loader Op 2 2 Dumpster - Colville DS-2H Travoo 2 <td></td>											
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Peak LoaderHot IceLounsburyImage: Construct of the system											
Dumpster - Colville DS-2H Travco Image: Colving transmission of the transmission of transmissing transmission of transmission of transmission of tra		garraer						Ű			
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Peak 50T craneHot IceAPC VisitorsImage: constraint of the system of the	Manlift			Hot Ice				2			
8 Bed Sleeper/ Generator DS-2H MatTrack 2 Engineering House (2) Hot Ice Image: Consumable set of the set of t	Peak 50T cra	ne									
Engineering House (2) Hot Ice Image: Constraint of the second se	Heater (5)			Hot Ice	Precision P	ower			5		
150 Ton Crane Hot Ice Image: constraint of the second sec	8 Bed Sleeper	/ Generator		DS-2H	MatTrack			2			
85 Ton Crane Hot Ice Image: Section 1 and the section 2 and the	Engineering H	louse (2)		Hot Ice							
Welding Machine Hot Ice 3 32 21 Consumables Potable Grey Fuel MO2115 Equipment Down: Previous Balance 8,100 7,019 501,000 R-200 Fire Suppressant System On Single Received - 3,000 Generator Set. Single Days Usage 3,400 2,400 Generator Set. Single Accumulated 35,600 59,420 504,000 Single On Hand 4,200 5,405 Single Single	150 Ton Cran	e									
ConsumablesPotableGreyFuelMO2115Equipment Down:Previous Balance8,1007,019501,000R-200 Fire Suppressant System On SingleReceived-3,000Generator Set.Days Usage3,4002,400AccumulatedAccumulated35,60059,420504,000On Hand4,2005,405Accumulated											
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Accumulated 35,600 59,420 504,000 On Hand 4,200 5,405			0.400		-	3,000	Generator S	set.			
On Hand 4,200 5,405						504.000					
						504,000					
	Comments:	Ctouted				<u> </u>	Ţ				

On location for placement on platform: (6) 20' spacer conexes, Mud storrage conex, 20' waste mud conex, ACS unit, drilling office, Dynatec mud pumps, mud chillers, tioga heaters, Dynatec workshop and parts house units, one load of angle iron, Swaco centrifuges and choke equipment. To be shipped from 2H: Dowell pumps Date:3/6/2003Rpt. No.38

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Rigging up to set 50-ton crane on deck.

 Accidents/Injuries:
 Housekeeper complained of headache at the end of shift after using a shower cleanser.

 Given bed rest and told not to use that cleanser any more.

 Safety:
 Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From	То	Hours	Code		ne Summary				
0:00:00					ers and light to			rea for mud	pump
	6:00:00	6.00		section. La	y plywood an	nd set mud p	oump unit.		
6:00:00				Set MI Mud	Tank, Mud C	Chemical Co	nex. Drill Co	ol I ower Co	nex.
					nent Unit/Hou				
					Conex, ACS				
					nnect Alaska			0	
	18:00:00	12.00		Laboratory					
18:00:00					mud cleaning	g equipment	on mud tank	section. Ur	nload
					love light tow				
				protection to	o set 20' was	te mud unit.	Clear deck	of non-esse	ntial
	24:00:00	6.00		materials.					
	Total	24.00	Hours						
Equipment			Location	Personnel	In Field	KCC	DS-2H	Hotice	
Catco 32 Bed	Camp		DS-2H	Anadarko R				2	
Catco Loader	•		DS-2H	Anadarko H					
Catco Pickup (2)		DS-2H	Alaska Clea	in Seas			1	
Peak Light Pla	nts (2)		DS-2H	Catco			9		
Peak Light Pla			Hot Ice	Global Cate	ering		3		
Heater (1)	S 7		DS-2H	Doyon Secu	urity	2			
Mattracks (2)			DS-2H	Duane Mille					
RT-85 w/Drill			Hot Ice	Environmer	ntal	1			
RT-85 w/Bus &	& Fuel Pup		Hot Ice	Medic				1	
RT-85 Tractor	Trailer		Hot Ice	Nana Dyna			2	9	
RT-85 w/Wate			DS-2H	Peak Loade			2		
RT-85 w/ 3500	gal Fuel		Hot Ice	Peak Crane	e Crew		8		
Peak Loader			Hot Ice	Lounsbury					
Dumpster - Co	lville		DS-2H	Travco				_	
				Arctic Cater				7	
Man lift			Hot Ice	AK Telecon			2		
Peak 50T crar	ne		Hot Ice	APC Visitor					
Heater (5)	/ Concertan		Hot Ice	Precision P	ower			5	
8 Bed Sleeper/ Engineering He			DS-2H Hot Ice	Mattrack VECO				2	
150 Ton Crane			Hot Ice	GBR				3	
85 Ton Crane	5		Hot Ice	GDR				2	
Welding Machi	ine		Hot Ice			3	26	30	
viciality matching			1100100		Lake	Ŭ	20	00	
Consumables	;	Potable	Grey	Fuel	MO2115	Equipmen		59	
Previous Balar	nce	8,100		5,405	504,000	R-200 Fire	Suppressan	t System On	Single
Received				4,300	-	Generator	Set.		
Days Usage		3,400		2,400					
Accumulated		35,600		68,020	504,000				
On Hand		4,200		7,305					
				ation with L					

Received mud tank top sections and "I" beams for pipe shed. VECO steel workers and GBR welders on location this PM. Catco changing out fuel hauler unit for repairs.

Date:	3/7/2003
Rpt. No.	39

Hot Ice Project Daily Mobilization & Installation Report



0

Present Operation: Staging Mud-Gas Seperator piping on deck.

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From	То	Hours	Code	Activity Tir	ne Summary	/			
0:00:00				Rig fall prot	ection for sec	cond story co	onex lifts. Po	osition manli	fts.
				Set waste n	nud conex. F	Re-rig fall pro	tection and	set Dynatec	
	6:00:00	6.00		warehouse	unit.				
6:00:00				Pick 50-ton	crane and se	et on deck. S	Set top secti	on on Swaco	mud tank
				Set Dynate	c workshop.	Lay down no	on-skid wakw	ways on sele	ct deck
				areas. Beg	in erecting ar	ngle iron con	ex stack bra	cing. Welde	ers working
				on walkway	s and stairs.				
	18:00:00	12.00							
18:00:00				Set handrai	is around top	of mud tank	top section	. Set miscel	. equip. on
				deck. Insta	II hand rails a	around top of	f mud tank to	op sections.	
				Bolt up new	mud suction	strainers to	pump suction	on piping.	
	24:00:00	6.00		Set Swaco	vac unit and	power panel	on mud tan	k top section	
				Set Tioga h	eater on east	t end of mud	tank top se	ction.	
Equipment	Total	24.00	Hours Location	Personnel	In Field	ксс	DS-2H	Hot loo	
Catco 32 Bed	Camp	I	DS-2H	Anadarko F		RCC	D3-2N	Hot Ice 2	
Catco S2 Beu			DS-2H DS-2H	Anadarko F				2	
Catco Pickup			DS-2H DS-2H	Alaska Clea				1	
Peak Light Pla			DS-2H	Catco	an Seas		9	1	
Peak Light Pla			Hot Ice	Global Cate	rina		3		
Heater (1)			DS-2H	Doyon Sec	•	2	5		
Mattracks (2)			DS-2H	Duane Mille		2			
RT-85 w/Drill			Hot Ice	Environmer		1			
RT-85 w/Bus	& Fuel Pun		Hot Ice	Medic		1		1	
RT-85 Tractor			Hot Ice	Nana Dyna	tec		2	9	
RT-85 w/Wate			DS-2H	Peak Loade			3	0	
RT-85 w/ 3500			Hot Ice	Peak Crane			6		
Peak Loader	- J		Hot Ice	Lounsbury					
Dumpster - Co	olville		DS-2H	Travco					
D6 Dozer			Hot Ice	Arctic Cate	ring			7	
Manlift			Hot Ice	AK Telecon			1		
Peak 50T cra	ine		Hot Ice	APC Visitor	S			1	
Heater (5)			Hot Ice	Precision P	ower			5	
8 Bed Sleeper	r/ Generator		DS-2H	MatTrack					
Engineering H			Hot Ice	VECO				4	
150 Ton Cran	e		Hot Ice	GBR				4	
50 Ton Crane			Hot Ice	Swaco				1	
Welding Mach	nine		Hot Ice			3	24	35	
					Lake			62	
Consumable		Potable	Grey	Fuel	MO2115	Equipment			_
Previous Bala	nce	8,100		5,405	504,000			t System On	Single
Received			Shp. 3000		6,000	Generator S	Set.		
Days Usage		3,400		2,400		4			
Accumulated		35,600		63,720	510,000	4			
On Hand		4,200	6,000	3,005		J			
Comments:	Feathering out				K D-6.				
	Hauled 3000 g								
	Move 82-ton c								
	**Added 6000	dal to water us	ade, corre	ctions to 2/9	N & 2/21				

**Added 6000 gal to water usage, corrections to 2/9 & 2/21. Vaporizor shut down for nozzle repairs. Date: 3/8/2003 Rpt. No. 40

Hot Ice Project Daily Mobilization & Installation Report



 Present Operation:
 Check MGS "U" tube piping clearance Install Conex Structural Steel

 Accidents/Injuries:
 None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From	То	Hours	Code	Activity Tir	ne Summary	/					
0:00:00					g and materia						
				non-skid se	ctions. Build	temp. stair I	anding. Sta	ge MGS pipi	ng		
	6:00:00	6.00		on deck.							
6:00:00				Erecting co	nex anchorin	a steel. Wor	k on hook u	p of Swaco s	olids		
					uip. Arrange						
					ull wiring and						
					clean ice pad						
					nstalled stair						
	18:00:00	12.00			& office supp						
18:00:00				Work on mi	ud tank piping	abilos bre r	removal equ	in Set un			
10.00.00					ea for materi				tun		
	24:00:00	6.00		Unload rollig					tup.		
	Total	24.00	Hours	Critoda rolli	gon.						
Equipment	Total	24.00	Location	Personnel	In Field	KCC	DS-2H	Hot Ice			
Catco 32 Bed	Camp		DS-2H	Anadarko R		NCC	03-211	2			
Catco Loader	Camp		DS-2H	Anadarko H				2			
Catco Pickup ((1)		DS-2H	Alaska Clea				1			
Peak Light Pla			DS-2H	Catco	an Seas		7	1			
Peak Light Pla			Hot Ice	Global Cate	ring		3				
Heater (1)	1115 (4)		DS-2H	Doyon Seci	•	2	5				
Mattracks (2)			DS-2H	Duane Mille		2					
RT-85 w/Drill			03-211	Environmer		1					
RT-85 w/Bus &			Hot Ice	Medic	itai	1		1			
RT-85 Tractor			Hot Ice	Nana Dynat	ter		2	9			
RT-85 w/Wate			DS-2H	Peak Loade			3	3			
RT-85 w/ 3500			Hot Ice	Peak Crane			4				
Peak Loader	garraer		Hot Ice	Lounsbury			•				
Dumpster - Co	lville		DS-2H	Travco							
D6 Dozer			202	Arctic Cater	rina			7			
Manlift			Hot Ice	AK Telecon				1			
Peak 50T crar	ne		Hot Ice	APC Visitor				1			
Heater (5)			Hot Ice	Precision P				5			
8 Bed Sleeper	/ Generator		DS-2H	MatTrack							
Engineering H			Hot Ice	VECO				4			
150 Ton Crane			Hot Ice	GBR				4			
				PTS				2			
				Swaco				1			
Welding Machi	ine		Hot Ice			3	19	38			
					Lake			60			
Consumables		Potable	Grey	Fuel	MO2115	Equipment					
Previous Balar	nce	8,100	6,000	3,005	510,000			t System On	Single		
Received			Shp. 3000	4,300	-	Generator S	Set.				
Days Usage		3,400	1,500	2,060							
Accumulated		35,600	6,000	68,020	510,000						
On Hand		4,200	4,500	5,245							
Comments:	Completed fea	thering out sn	ow piles ar	ound locati	on w/ PEAK	D-6.					

Hauled 3000 gal. grey water from Hot Ice to 2H.

Cat graded area for heliport.

Released one Catco heavy haul rolligon and one RD-85 carring bus. Working days only. Released night Peak crane crew.



Hot Ice Project Mobilization & Installation Cost

Report #:

41

Date:	March	9, 2003
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53,405 Daily Total 2,598,463 Accumulated Total

\$ \$

		φ 2,000,400					Daily
ltem	Description	Vendor	Information	QTY	RATE	HRS	Cost
1	Hot Ice Drilling Supt.	Contract	1250 per day	2	1250		2,500
2	ACS Tech Fees	ACS	1000 per day	1	1000		1,000
3	EHS Advisor	Hoefler	950 per day	1	950		950
4	Security	Doyon	600 per day	2	600		1,200
5	Soils Engineers	DMA	1200 per day	0	1200		-
6	Medic	Fairweather	1000 per day	1	1000		1,000
7	Surveyors	Lounsbury	1000 per day	0	1000		-
8	Lodging at Kupark	CPAI	100 per day	3	100		300
9	Company Pickups	Fairweather	100 per day	2	100		200
10	Mobilization/Demobilization	Catco	34 Bed Camp	1			
11	Mobilization/Demobilization	Denali	Texoma 600 Drill	1			
12	Mobilization	Catco	Out Riggers For RD-85 With Drill	1			
13	Mobilization	Catco	Mob-Demob of Kobelco excavator	0			
14	Mobilization	Catco	Gin Poles for RD-85 tractor	0			
15	Construction Base Camp	Catco	34 Bed Camp @ 3,250 Per Day	1	3250		3,250
16	RD-85 with Denali Drill rig	Catco	200 per hour / minimum 4 hour day	0	200		-
17	RD-85 with Bus & Fuel Pup	Catco	200 per hour / minimum 4 hour day	1	200	4	800
18	RD-105 Tractor & Trailer	Catco	400 per hour / minimum 4 hour day	1	400	12	4,800
19	RD-85 w/3000 gal Water House	Catco	200 per hour / minimum 4 hour day	1	200	4	800
20	RD-85 with 3000 gal Fuel Tank	Catco	200 per hour / minimum 4 hour day	1	200	4	800
21	Base Camp Loader	Catco	966 or Equivelent	1	330		330
22	Pick-Up	Catco	100 per day	1	100		100
23	Foreman	Catco	61 per hour	1	61	12	732
24	Operator	Catco	59 per hour	4	59	12	2,832
25	Mechanic	Catco	On Site Mechanic	1	59	12	708
26	Texoma 600 Drill	Denali	2000 per day				
27	Driller	Denali	61 per hour				-
28	Helper/Slurry Crew	Denali	59 per hour				-
29	Swaco Solids System	Swaco	Daily rate @ \$4230	1	4230	1	4,230
30	Mattracks	Dynatec	Ford F-350 with tracks	2 2	208		416
31	Mattrack Drivers	Dynatec	350 per day		350		700
32	Light Tower	Peak	99 per day	6	99		594
33	Indirect Heater	Peak	300 per day	5	300		1,500
34	Security/Engineering House	Fairweather	150 per day inclusive of gen sets	2	150		300
35	50T Crane (Hot Ice)	Peak		1	1150	10	1,150
36 37	150 Ton Crane	Peak Peak		1	314 176	12	3,768
38	82 Ton Crane (DS-2H)			0 1	63	4 12	-
30 39	Crane Operator	Peak			63 46	12	756
39 40	Crane Oiler/Rigger Iron Work	Peak VECO		2 4	40 50	12	1,104 2,400
40 41	Field Welders	GBR		4	50	12	
	Trucking	Peak		4	750	12	2,400
43	Dynatec crew	Dynatec		9	39.44	12	4,260
44	Trucking	Carlile		2	750	12	1,500
45	Loader - Hot Ice	Peak	110 per hr w/ operator	1	110	24	2,640
46	Man Lift	Peak	300 per day	2	300	27	600
47	Dumpster	Colville	Soo per day	1	100		100
48	8 Bed Sleeper & Gen Set	Arctic Catering		1	450		450
49	Welding Machine	Airport Rental		1	45		45
49 50	Air compressor / Jack Hammer	Airport Rental		1	190		190
51	Air Fares	Lower 48	1250 per person Lower Forty Eight	0	1250		- 130
52	Air Fares	Alaska	600 per person Anchorage/Prudhoe B		600		
53	Grey Water Disposal	CPAI		5	500		1,000
54	D6 Dozer	Peak	: 150 Per Hour w/ operator	0	150		.,
55	Potable Water	CPAI	?	J	100		1,000
56	Fuel	Nana	2.00 per gallon	0	2		
00	1			5	-		



Hot Ice Project Mobilization & Installation Cost

Report #:

42

Date:	March	10,	2003
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71,465 Daily Total 2,669,928 Accumulated Total

\$ \$

1 Hot lee Drilling Supt. Contract 1250 per day 2 1250 2.500 2 ACS Tech Fees ACS 1000 per day 1 1000 1.000 3 EHS Advisor Hoefler 950 per day 0 1200 - 6 Medic Fairweather 1000 per day 0 1000 - 6 Medic Fairweather 1000 per day 0 1000 - 1 Lodging at Kupark CPAH 100 per day 2 100 200 9 Company Pickups Fairweather 100 per day 2 100 200 11 Mobilization Cato 04 Bed Camp 2 200 - 11 Mobilization Cato 200 per hour / minimum 4 hour day 0 200 - 12 Mobilization Cato 200 per hour / minimum 4 hour day 1 200 4 800 13 Robilization Cato 200 per hour / minimum 4 hour day			• _,,					Daily
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50Air compressor / Jack HammerAirport Rental119019051Air FaresLower 481250 per person Lower Forty Eight212502,50052Air FaresAlaska600 per person Anchorage/Prudhoe B160060053Grey Water DisposalCPAI?1001,00054D6 DozerPeak150 Per Hour w/ operator0150-55Potable WaterCPAI?1,000			-					
51Air FaresLower 481250 per person Lower Forty Eight212502,50052Air FaresAlaska600 per person Anchorage/Prudhoe B160060053Grey Water DisposalCPAI?1,00054D6 DozerPeak150 Per Hour w/ operator0150-55Potable WaterCPAI?1,000								
52Air FaresAlaska600 per person Anchorage/Prudhoe B160060053Grey Water DisposalCPAI?1,0001,00054D6 DozerPeak150 Per Hour w/ operator0150-55Potable WaterCPAI?1,0001,000				1250 per person Lower Forty Fight				
53Grey Water DisposalCPAI?1,00054D6 DozerPeak150 Per Hour w/ operator0150-55Potable WaterCPAI?1,0001,000								
54D6 DozerPeak150 Per Hour w/ operator0150-55Potable WaterCPAI?1,0001,000						500		
55 Potable Water CPAI ? 1,000					0	150		-
				?	Ĵ			1.000
		Fuel	Nana	2.00 per gallon	8555	2		17,110

Date:3/11/2003Rpt. No.43

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: Medivac employee to Anchorage @ 1100 hrs for health reasons-no injury

Safety: Pre-job safety meetings at the start of each tour.

Environmental Incidents: 2-quart diesel spill in #3 Gen. module. Fully contained and cleaned up. No discharge to environment.

From	То	Hours	Code	Activity Tir	ne Summarv	,				
0:00:00	-			Cut & install covers over deck troughs. Spot third layer conexes.						
				Cut & install covers over deck troughs. Spot third layer conexes. Spot Drill Cool heat exchanger unit. Fix gaps in walkway						
	6:00:00	6.00		Spot Drill Cool heat exchanger unit. Fix gaps in walkway by water treatment units.						
	0.00.00	0.00		by mater are						
6:00:00				Continue in	stalling cones	v steel bracir	na Test nlatfa	orm fueling	system	
0.00.00				Continue installing conex steel bracing.Test platform fueling system, OK. Fuel all rig operating fuel tanks. Set Drill Cool HEX, 2-3rd level						
					Vire imersion					
					orm access st					
					m.systems ir					
	18:00:00	12.00		on Tioga he					uamage	
	10.00.00	12.00		on noga ne						
18:00:00				Cut halo in t	trip tank cone	y floor and i	inatall MCS !	"Il" tubo Du	uild	
18.00.00										
	24:00:00	6.00		cover for deck opening by MGS. Straighten BOP stack beneath rig floor by tensioning with come-alongs					aui	
	24.00.00 Total	24.00	Hours		lensioning wi		iys			
Equipment	Total	24.00	Location	Personnel	In Field	ксс	DS-2H	Hot Ice]	
Catco 32 Bed	Camp		DS-2H	Anadarko R			00-211	2		
Catco Loader	oump		DS-2H	Anadarko H				-		
Catco Pickup	(1)		DS-2H	Alaska Clea				1		
Peak Light Pla			DS-2H	Catco			6	1		
Peak Light Pla			Hot Ice	Global Cate	rina		3			
Heater (1)			DS-2H	Doyon Secu		2	<u> </u>			
Heater (5)			Hot Ice	Duane Mille		۲				
Mattracks (2)			DS-2H	Environmer		1				
RT-85 w/Drill			00 211	Medic				1		
RT-85 w/Bus &	& Fuel Pup		Hot Ice	Nana Dynat	tec		2	9		
RT-85 Tractor			Hot Ice	Peak Loade			3			
RT-85 w/Wate			DS-2H	Peak Crane			4			
RT-85 w/ 3500			Hot Ice	Lounsbury						
Peak Loader	5 gai 1 a ci		Hot Ice	Noble				2		
Dumpster - Co	olville		DS-2H	Arctic Cater	rina			6		
D6 Dozer			20 211	AK Telecon				2		
Manlift (2)			Hot Ice	APC Visitor				_		
Peak 50T cra	ne		Hot Ice	Precision P		1	1	4		
8 Bed Sleeper			DS-2H	Drill Cool			1	2		
Engineering H			Hot Ice	VECO			1	4		
150 Ton Crane			Hot Ice	GBR				4		
Welding Mach			Hot Ice	PTS				0		
Fairweather S			Hot Ice	SWACO				1		
	-					3	18	38		
					Lake		•	•	ı	
Consumables	S	Potable	Grey	Fuel	MO167	Equipment	t Down:	59		
Previous Bala	nce	6,400	3,000	3,005	5,000		Suppressan	t System Or	Single	
Received		500		9,307	2,100					
Days Usage		2,100	1,700	3,870			r has broker			
Accumulated		35,600	6,000	95,634	7,100	head. Una	ble to install	bucket until	repaired.	
On Hand		3,650	4,700	16,700						
Commonts:	Medivac Arctic	Cataring any		a aver a baad		h ah an nar fu	om Dietfer	n to Doodle		

<u>Comments:</u> Medivac Arctic Catering employee with sever chest pains. ERA chopper from Platform to Deadhorse then continued to Anchorage on Alaska Airlines. Incident report and critique to be prepared.

Date:3/12/2003Rpt. No.44

Hot Ice Project Daily Mobilization & Installation Report



Present Operation:

ation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None reported

Safety: Pre-job safety meetings at the start of each tour.

Environmental Incidents: None reported

From	То	Hours	Code		ne Summary					
0:00:00				Change door swing on MGS unit. Reposition walkway between						
				mud tanks and mud pumps. Install handrails						
	6:00:00	6.00								
							. .			
6:00:00					73. Continu					
					nain stairway					
				Warm hydraulic system on rig, prep to raise mast. Peak serviced their equip. Noble installing DrillSmart systems. Continue working						
									orking	
				on Swaco and Drill Cool systems. Serviced MatTrack units. Work on #2 fuel hose reel/possibly bad nozzle.						
	18:00:00	12.00		Work on #2	fuel hose ree	el/possibly b	ad nozzle.			
18:00:00				Warm rig hy	/draulics. Ra	ise mast. P	rep to set m	ast stiff legs.		
	24:00:00	6.00								
	Total	24.00	Hours							
Equipment			Location	Personnel	In Field	KCC	DS-2H	Hot Ice		
Catco 32 Bed	Camp		DS-2H	Anadarko R	lep.			2		
Catco Loader			DS-2H	Anadarko H	ISE					
Catco Pickup			DS-2H	Alaska Clea	an Seas			1		
Peak Light Pla	ants (2)		DS-2H	Catco			6			
Peak Light Pla	ants (4)		Hot Ice	Global Cate	ering		3			
Heater (1)			DS-2H	Doyon Secu	urity	2				
Heater (5)			Hot Ice	Duane Mille	er					
Mattracks (2)			DS-2H	Environmer	ntal	1				
RT-85 w/Drill				Medic				1		
RT-85 w/Bus a	& Fuel Pup		Hot Ice	Nana Dynat	tec		2	9		
RT-85 Tractor	Trailer		Hot Ice	Peak Loade	er/Cat Op		2			
RT-85 w/Wate	er House		DS-2H	Peak Crane	e Crew		3			
RT-85 w/ 3500) gal Fuel		Hot Ice	Lounsbury						
Peak Loader			Hot Ice	Noble				2		
Dumpster - Co	olville		DS-2H	Arctic Cater	ing			6		
D6 Dozer				AK Telecom	า			1		
Manlift (2)			Hot Ice	APC Visitor						
Peak 50T cra			Hot Ice	Precision P	ower			4		
8 Bed Sleeper			DS-2H	Drill Cool				2		
Engineering H			Hot Ice	VECO				4		
150 Ton Cran			Hot Ice	GBR				4		
Welding Mach			Hot Ice	PTS				0		
Fairweather S	hack		Hot Ice	SWACO				2		
						3	16	38		
0	_	Hot Ice	Hot Ice	Hot Ice	Lake		. D	57		
Consumables		Potable	Grey	Fuel	MO167	Equipment			Cinala	
Previous Bala Received	nce				7,100	Generator S		t System On	Single	
Days Usage		1,616	1,700	1,400	2,000		501.			
Accumulated		35,600	7,700	95,634	9,100	4				
On Hand		4,000	4,000	95,634	9,100	ł				
	Consumable s					1				

<u>Comments:</u> Consumable status is just for Hot Ice Platform starting 3/12/03. Water from Lake M0167 from opening on 3/9/03.

Fuel On Hand does not include individual component engine day tanks.

Date:3/13/2003Rpt. No.45

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: Est. 560 gallon lake water spill. Filter bonnet not properly tightened. 360 gallons contained in Bucket 21. Remaining 200 gallons on ice pad.

From	То	Hours	Code	0		/			
0:00:00				Activity Time Summary Attached rig still legs on mast. Clear deck of some unused material.					
					materials on				
	6:00:00	6.00							
6:00:00				Set BOP ac	cumulator or	n deck and p	osition bene	ath iack leas	5
0.00.00					recting steel.				
									מו
				Schlumberger hookups. Install access stair north side of camp platform. Set Conexes 372 & 371. Clean up pot.water spill out of					
					cket 21. Drilling crew changeArriving crew did not arrive due				
				to airport closure for high winds in Anchorage. Continue					
	18:00:00	12.00			wiring and te				
				p	in ing and to		00000000000		
18:00:00				Drv watch e	equipment an	d facilities.	All crews wor	king davs.	
10.00.00				Diff matori c	squipmont un	a laointioo		lang dayo.	
	24:00:00	6.00							
	Total	24.00	Hours						
Equipment			Location	Personnel	In Field	KCC	DS-2H	Hot Ice	Temp.
Catco 32 Bed	Camp		DS-2H	Anadarko F				2	-22
Catco Loader	Cump		DS-2H	Anadarko H					Wind
Catco Pickup	(1)		DS-2H	Alaska Clea				1	SW-17
Peak Light Pla			DS-2H	Catco			6		••••
Peak Light Pla			Hot Ice	Global Cate	erina		3		
Heater (1)			DS-2H	Doyon Sec		2			
Heater (5)			Hot Ice	Duane Mille					
Mattracks (2)			DS-2H	Environmer		1			
RT-85 w/Drill			2020	Medic				1	
RT-85 w/Bus	& Fuel Pup		Hot Ice	Nana Dyna	tec		1	5	
RT-85 Tractor			Hot Ice	Peak Loade			1	-	
RT-85 w/Wate			DS-2H	Peak Crane			4		
RT-85 w/ 3500			Hot Ice	Lounsbury					
Peak Loader	- J		Hot Ice	Noble				2	
Dumpster - Co	olville		DS-2H	Arctic Cate	rina			6	
D6 Dozer				AK Telecon				1	
Manlift (2)			Hot Ice	APC Visitor		1			
Peak 50T cra	ne		Hot Ice	Precision P				4	
8 Bed Sleeper			DS-2H	Drill Cool			1	2	
Engineering H			Hot Ice	VECO			1	4	
150 Ton Cran			Hot Ice	GBR				3	
Welding Mach			Hot Ice	PTS				0	
Fairweather S			Hot Ice	SWACO			1	2	
						3	15	33	
		Hot Ice	Hot Ice	Hot Ice	Lake		•		I
Consumables	5	Potable	Grey	Fuel	MO167	Equipmen	t Down:	51	
Previous Bala			8,000		9,100		Suppressan	t System On	Single
Received			shp 3000		1,500	Generator	Set.	2	-
Days Usage		1,616	1,263	1,400					
Accumulated		35,600	8,963	95,634	10,600]			
On Hand		23,075	6,263	14,666		I			
Comments:		•	•	•		-			

Date:3/14/2003Rpt. No.46

Hot Ice Project Daily Mobilization & Installation Report



Present Operation:

ration: Continue rig up and construction of platform equipment.

Accidents/Injuries: None reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None reported

From	То	Hours	Code	Activity Tir	ne Summary	/				
0:00:00				Dry watch equipment and facilitiesAll crews working days.						
6:00:00	6:00:00	6.00		Set conexes 451 & 471. Set wireline logging unit and generator. Continue erecting steel system. Continue with electrical installation. Repipe fuel systems in generator modules. Work on Swaco vac system and cuttings auger. mounting Drill Smart cameras. Surveyors shot level checks on deck & measured KB to GL of 26'.						
				Thawed ice/snow and recovered 200 gal. wtr from Bucket 21. Completed north stairway on camp.						
	18:00:00	12.00				, r				
18:00:00				Dry watch equipment and facilitiesAll crews working days.						
	24:00:00	6.00								
	Total	24.00	Hours							
Equipment			Location	Personnel	In Field	KCC	DS-2H	Hot Ice	Temp.	
Catco 32 Bed	Camp		DS-2H	Anadarko F				2	22	
Catco Loader			DS-2H	Anadarko H		2			Wind	
Catco Pickup			DS-2H	Alaska Clea	an Seas			1	SW-6	
Peak Light Pla			DS-2H	Catco			6			
Peak Light Pla	nts (4)		Hot Ice	Global Cate			3			
Heater (1)			DS-2H	Doyon Secu		2				
Heater (5)			Hot Ice	Duane Mille						
Mattracks (2)			DS-2H	Environmer	ntal	1				
RT-85 w/Drill				Medic				1		
RT-85 w/Bus &			Hot Ice	Nana Dyna			2	8		
RT-85 Tractor			Hot Ice	Peak Loade			2			
RT-85 w/Wate			DS-2H	Peak Crane			4			
RT-85 w/ 3500) gal Fuel		Hot Ice	Alaska Drea	am			5		
Peak Loader			Hot Ice	Noble				2		
Dumpster - Co	olville		DS-2H	Arctic Cater				6		
D6 Dozer				AK Telecon				1		
Manlift (2)			Hot Ice	APC Visitor				1		
Peak 50T cra			Hot Ice	Precision P	ower			4		
8 Bed Sleeper			DS-2H	Drill Cool				0		
Engineering H			Hot Ice	VECO				4		
150 Ton Crane			Hot Ice	GBR		-		3		
Welding Mach		-	Hot Ice	PTS				0		
Fairweather S	NACK		Hot Ice	SWACO		5	17	1		
		Hot Ice	Hot Ice	Hot Ice	Lake	5	17	39	l	
Consumables	6	Potable	Grey	Fuel	MO167	Equipment	t Down:	61		
Previous Bala	nce	24,641	6,263	14,666	10,600	R-200 Fire	Suppressan	t System On	Single	
Received		1,900	shp 3000		3,000	Generator S	Set.			
Days Usage		1,803	1,805	720						
Accumulated		35,600	10,768	96,354	13,600	1				
On Hand		24,738	5,068	13,946						

<u>Comments:</u> Loundsbury crew shot levels on deck/legs. Measured 26' KB to Ground. Released two Peak light towers: R-647 & R-865. Date:3/15/2003Rpt. No.47

Hot Ice Project Daily Mobilization & Installation Report



Present Operation:

beration: Continue rig up and construction of platform equipment.

Accidents/Injuries: None reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None reported

From	То	Hours	Code	Activity Tir	me Summary	,				
0:00:00	6:00:00	6.00		Dry watch equipment and facilitiesAll crews working days.						
6:00:00	18:00:00	12.00		Continue erecting steel. Assemble steel for mast cover base beams and layout for winterizing construction. Work on 480 transformer. Continue rigging up Swaco systems. Work on Tioga elec. hookup. Begin assembly of winterizing system. Work on Drill Smart hookup. Construct secondary containment at grey water transfer point. Remove leaking outrigger on 150-ton crane and ship to Peak base for repairs. Connect mud pump exhaust pipes. Complete heating & pumping lake water out of #21 bucket. Closed out with 1/2" water remaining.						
18:00:00	24:00:00	6.00		Dry watch e	equipment an	d facilities /		king dave		
10.00.00	Total	24.00	Hours	Dry water e	squipment an			king days.		
Equipment	, otal	2	Location	Personnel	In Field	KCC	DS-2H	Hot Ice	Temp.	
Catco 32 Bed	Camp		DS-2H	Anadarko F				2		
Catco Loader			DS-2H	Anadarko H		2			Wind	
Catco Pickup	(1)		DS-2H	Alaska Clea				1	-	
Peak Light Pla			DS-2H	Catco			6			
Peak Light Pla			Hot Ice	Global Cate	ering		3			
Heater (1)			DS-2H	Doyon Sec	× ·	2				
Heater (5)			Hot Ice	Duane Mille						
Mattracks (2)			DS-2H	Environmer		1				
RT-85 w/Drill				Medic				1		
RT-85 w/Bus &	& Fuel Pup		Hot Ice	Nana Dyna	tec		2	8		
RT-85 Tractor			Hot Ice	Peak Loade			2			
RT-85 w/Wate	r House		DS-2H	Peak Crane			4			
RT-85 w/ 3500) gal Fuel		Hot Ice	Alaska Drea	am			5		
Peak Loader			Hot Ice	Noble				1		
Dumpster - Co	olville		DS-2H	Arctic Cate	ring			6		
D6 Dozer				AK Telecon	n			1		
Manlift (2)			Hot Ice	APC Visitor	S			1		
Peak 50T cra	ne		Hot Ice	Precision P	ower			4		
8 Bed Sleeper	/ Generator		DS-2H	Drill Cool				0		
Engineering H			Hot Ice	VECO				4		
150 Ton Crane			Hot Ice	GBR				3		
Welding Mach			Hot Ice	PTS				0		
Fairweather S	hack		Hot Ice	SWACO				1		
						5	17	38		
	_	Hot Ice	Hot Ice	Hot Ice	Lake	-	. D	60		
Consumables		Potable	Grey	Fuel	MO167	Equipment			Cin al -	
Previous Bala	nce	2,900	6,263	13,946	13,600	R-200 Fire Generator 3	Suppressan	i System On	Single	
Received		1,600	shp 3000	700	3,000	Generator	ડેલા.			
Days Usage		843	843	720 96,354	16.600	l				
Accumulated On Hand		36,443 3,657	11,611 2,911	13,093	16,600	ł				
Comments:		5,057	2,911	13,083		1				

Date: 3/16/2003 Rpt. No. 48 Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour. Scheduled fire drill at 1300 hrs., postponed same due to malfunction of alarm panel. Problem resolved and alarm panel tested at 1900 hours.

<u>Environmental Incidents:</u> Grey water spill during transfer. Outlet pipe from grey water unit broke. All contained in secondary containment on ice pad. Est. 30 gallons spilled. Cleaned up.

From	То	Hours	Code	Activity Tir	me Summary	1				
0:00:00	6:00:00	6.00		Dry watch equipment and facilitiesAll crews working days.						
6:00:00				Move Gene	erator Day Tai	nk To Allow	Access To N	landoor on I	D/S Unit	
				Continue er	recting steel.	Assemble p	ipe rack are	a roof sectio	ns.	
				Shut down	power & char	nged locknut	s on #1 & #2	2 Generators	s.	
				Pulled 480	cable to drill o	cool units. Co	ompleted mu	ud pump exh	aust.	
				Replaced o	utrigger on 18	50T crane &	resumed cra	ane ops at 1	330 hrs.	
				Removed V	Vire Line Log	ging Unit & C	Generator Fr	om Platform		
				Continue w	ith mud piping	g systems. S	ealed conta	inment at m	bu	
				pump door.	Received va	porizer parts	and place v	aporizer on	line.	
				Remove To	wer Support	Beams from	structure ar	nd reassemb	le on	
	18:00:00	12.00		ground. Co	mmence asse	embly of low	er tower ring].		
18:00:00	24:00:00	6.00		Dry watch e	equipment an	d facilitiesA	Il crews wor	king days.		
	Total	24.00	Hours					•		
Equipment		T	Location	Personnel		KCC	DS-2H	Hot Ice	Temp.	
Catco 32 Bed	Camp		DS-2H	Anadarko F	-			2	-12	
Catco Loader			DS-2H	Anadarko H	-				Wind	
Catco Pickup (DS-2H	Alaska Clea	an Seas			1	9-NE	
Peak Light Pla			DS-2H	Catco			6			
Peak Light Pla	nts (4)		Hot Ice	Global Cate			3			
Heater (1)			DS-2H	Doyon Sec		2				
Heater (5)			Hot Ice	Duane Mille		-				
Mattracks (2)			DS-2H	Environmer	ntal	1				
RT-85 w/Drill				Medic				1		
RT-85 w/Bus &			Hot Ice	Nana Dyna			2	8		
RT-85 Tractor			Hot Ice	Peak Loade			2			
RT-85 w/Wate			DS-2H	Peak Crane			4			
RT-85 w/ 3500) gal Fuel		Hot Ice	Alaska Drea	am			5		
Peak Loader			Hot Ice	Noble				1		
Dumpster - Co	olville		DS-2H	Arctic Cate				6		
D6 Dozer				AK Telecon				1		
Manlift (2)			Hot Ice	APC Visitor						
Peak 50T crai			Hot Ice	Precision P	ower			4		
8 Bed Sleeper			DS-2H	Drill Cool						
Engineering H			Hot Ice	VECO				4		
150 Ton Crane			Hot Ice	GBR				3		
Welding Mach			Hot Ice	PTS						
Fairweather SI	hack		Hot Ice	SWACO			47	1		
		Hot Ice	Hotioo	Hot Ice	Laka	3	17	37		
Consumables		Potable	Hot Ice	Fuel	Lake MO167	Equipment	Down	57		
Consumables Previous Balar		FOLADIE	Grey	13,093		Equipment		t System On	Single	
Received		900	shp 3000	13,093	3,000	Generator S		i System Off	Single	
Days Usage		1,389	1,389	1,933	3,000					
Accumulated		38,639	13,000	98,287	19,600	ł				
On Hand		3,750	4,000	11,160	13,000	ł				
Comments:		5,750	4,000	11,100		1				

Comments:

150T Crane Out of Service from 1600 hours 3/15 until 1330 hours 3/16 due to broken hydraulic line in outrigger. Removed outrigger, sent to Peak shop in Deadhorse where it was repaired and returned to worksite where it was itstalled. Letters of accommodation and awards presented to personnel involved in removal/installation of outrigger without one drop of hydraulic fluid being spilled. Date:3/17/2003Rpt. No.49

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Continue rig up and construction of platform equipment.

<u>Accidents/Injuries:</u> Foreign body in eye-medical treatment. VECO ironworker. Removed particle & rust ring. Returned to work.

<u>Safety:</u> Pre-job safety meetings at the start of each tour. Two heater trunk lines caught fire from cutting slag falling from work above. Immediately extinguished fire. Cleaned up/minor damage.

Environmental Incidents: None Reported

From	То	Hours	Code		ne Summary				
0:00:00	6:00:00	6.00		Dry watch equipment and facilities. All crews working days. Continue erecting steel; hammering up all bolts, weld bridge crane					
6:00:00				Continue er	ecting steel;	hammering	up all bolts, v	weld bridge o	crane
					ain outboard s				
					system; pipe				
					minations for				
					k on vac syst				
					ompl. Mounti				iip.
					orking on stee				
					aised monke				
					elocate radio	antennas a	t 2H- radio c	om. significa	ntly
	18:00:00	12.00		improved.					
18:00:00	24:00:00	6.00		Dry watch e	equipment an	d facilities	All crews wor	king days.	
	Total	24.00	Hours			1		1	
Equipment	-	I	Location	Personnel		KCC	DS-2H	Hot Ice	Temp.
Catco 32 Bed	Camp		DS-2H	Anadarko R				2	-13
Catco Loader			DS-2H	Anadarko H					Wind
Catco Pickup			DS-2H	Alaska Clea	an Seas			1	NE- 2
Peak Light Pla			DS-2H	Catco			6		
Peak Light Pla	ants (4)		Hot Ice	Global Cate			3		
Heater (1)			DS-2H	Doyon Secu		2			
Heater (5)			Hot Ice	Duane Mille					
Mattracks (2)			DS-2H	Environmer	ntal	1		-	
RT-85 w/Drill				Medic				1	
RT-85 w/Bus &			Hot Ice	Nana Dyna			2	8	
RT-85 Tractor			Hot Ice	Peak Loade			2		
RT-85 w/Wate			DS-2H	Peak Crane			4		
RT-85 w/ 3500) gal Fuel		Hot Ice	Alaska Drea	am			5	
Peak Loader			Hot Ice	Noble	•			1	
Dumpster - Co	DIVIIIE		DS-2H	Arctic Cater				6	
D6 Dozer				AK Telecon				1	
Manlift (2)			Hot Ice	APC Visitor					
Peak 50T cra			Hot Ice	Precision P	ower			4	
8 Bed Sleeper			DS-2H	Drill Cool				4	
Engineering H			Hot Ice	VECO				4	
150 Ton Crane			Hot Ice	GBR				4	
Welding Mach Fairweather S			Hot Ice	PTS SWACO				1	
Fairweather S	паск		Hot Ice	SWACO		3	17	38	
		Hot Ice	Hot Ice	Hot Ice	Lake	3	17	30	
Consumables						Equipmon	t Down:	58	
Previous Bala		Potable	Grey 4,000	Fuel 11,160	MO167	Equipmen	Suppressan	t Svetom On	Singlo
Received		1,400	4,000 shp 3000	1,206	3,000	Generator		i System On	Single
Davs Usage		1,400	1,277	1,200	5,000	Generatur	001.		
Accumulated		38,639	13,000	99,737	22,600	-			
On Hand		4,350	2,823	10,916	22,000	4			
Un Hann									

Comments: Vaporizor operating.

Date:3/18/2003Rpt. No.50

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

<u>Environmental Incidents:</u> One quart glycol spill on plaform deck. Fully contained & cleaned up. Drip leak from radiator drain valve-repaired.

From	То	Hours	Code	Activity Tir	ne Summary	/			
0:00:00	6:00:00	6.00		Dry watch equipment and facilitiesAll crews working days.					
6:00:00	18:00:00			Completed pulling 480 cable and continue terminations. Assembling mast sock frame. Checked placement of west end roof covers. Work on flowline/Mircomotion installation. Prep to set 9 5/8" csg pup for cellar seal. Continue work on Swaco, pulling and making up hoses. Work on stairways and handrails. Receive 50' crane boom extension. Work on end walls and east end roof section.					
18:00:00	24:00:00	12.00 6.00		Dry watch e	equipment an	d facilities/	All crews wor	king days.	
	Total	24.00	Hours						
Equipment	Carran	1	Location	Personnel		KCC	DS-2H	Hot Ice	Temp.
Catco 32 Bed			DS-2H	Anadarko F				2	-21
Catco Loader Catco Pickup			DS-2H DS-2H	Anadarko H Alaska Clea				1	Wind
Peak Light Pla			DS-2H DS-2H	Catco	an Seas		6	1	SW-5
Peak Light Pla			Hot Ice	Global Cate	ring		3		
Heater (1)			DS-2H	Doyon Seci	<u> </u>	2	5		
Heater (5)			Hot Ice	Duane Mille		2			
Mattracks (2)			DS-2H	Environmer		1			
RT-85 w/Drill				Medic				1	
RT-85 w/Bus	& Fuel Pup		Hot Ice	Nana Dyna	tec		2	9	
RT-85 Tractor	Trailer		Hot Ice	Peak Loade			2		
RT-85 w/Wate	er House		DS-2H	Peak Crane			4		
RT-85 w/ 3500) gal Fuel		Hot Ice	Alaska Drea	am			5	
Peak Loader			Hot Ice	Noble				1	
Dumpster - Co	olville		DS-2H	Arctic Cater				4	
D6 Dozer				AK Telecon				1	
Manlift (2)			Hot Ice	APC Visitor					
Peak 50T cra			Hot Ice	Precision P	ower			4	
8 Bed Sleeper			DS-2H	Drill Cool			-		
Engineering H			Hot Ice	VECO				4	
150 Ton Cran			Hot Ice	GBR				4	
Welding Mach Fairweather S			Hot Ice Hot Ice	PASON SWACO				1	
Failweather 5	IIduk			SWACO		3	17	38	
		Hot Ice	Hot Ice	Hot Ice	Lake	5	11		
Consumables	S	Potable	Grey	Fuel	MO167	Equipmen	t Down:	58	
Previous Bala			,		22,600		Suppressan	t System On	Single
Received	-	1,250		-	3,000	-		· , · · · · · · ·	0.5
Days Usage		1,406	1,406	1,450		Ĩ			
Accumulated		40,045	13,000	101,187	25,600]			
		2,100	2,100	7,313					

<u>Comments:</u> Returned 2 light towers and one heater to Peak. Nabors Canada toured platform. Arctic Catering crew change--one person short. Date:3/19/2003Rpt. No.51

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None Reported

Safety:

Pre-job safety meetings at the start of each tour. First aid incident, foreign particle in welder's helper eye. He was wearing safety glasses and face shield. Goggles are now being used with face shields when cutting aluminum.

Environmental Incidents: None Reported

From	То	Hours	Code		me Summary							
0:00:00	6:00:00	6.00		Dry watch equipment and facilitiesAll crews working days.								
6:00:00				Erect derrick sock framework. Continue rattling bolts on conex								
0100100					. Welders wo							
					ng up hanger	0		0				
				walkways.	Add 50' boom	section to	150 ton crane	e. Set and to	orqued			
				up second	9 5/8" conduc	ctor. Started	one Tioga h	eater				
					at on the seco							
					and waste m				vaste			
	18:00:00	12.00			unit. Comple							
18:00:00	24:00:00	6.00		Dry watch e	equipment an	d facilities	All crews wor	king days.				
Equipment	Total	24.00	Hours	Personnel	In Field	ксс		Hotles	Toma			
Equipment Catco 32 Bed	Camp	Γ	Location DS-2H	Anadarko F		RUU	DS-2H	Hot Ice 2	Temp. -26			
Catco Loader			DS-2H	Anadarko F				2	Wind			
Catco Pickup			DS-2H	Alaska Clea				1	WSW 4			
Peak Light Pla			DS-2H	Catco			6	•				
Peak Light Pla			Hot Ice	Global Cate	erina		3					
Heater (1)			DS-2H	Doyon Sec		2						
Heater (5)			Hot Ice	Duane Miller								
Mattracks (2)			DS-2H	Environmental 1								
RT-85 w/Drill				Medic			1					
RT-85 w/Bus	· · · · · ·		Hot Ice	Nana Dyna			2	9				
RT-85 Tractor			Hot Ice	Peak Loade			2					
RT-85 w/Wate			DS-2H	Peak Crane			4	_				
RT-85 w/ 350	0 gal Fuel		Hot Ice	Alaska Drea	am			5				
Peak Loader	a huille		Hot Ice	Noble				1				
Dumpster - Co D6 Dozer	Diville		DS-2H	Arctic Cate	-			5				
Manlift (2)			Hot Ice	AK Telecon APC Visitor				I				
Peak 50T cra	ne		Hot Ice	Precision P				4				
8 Bed Sleeper			DS-2H	Drill Cool		1	1	т 				
Engineering H			Hot Ice	VECO				4				
150 Ton Cran			Hot Ice	GBR		1	2	4				
Welding Mach		l l	Hot Ice	PASON				1	1			
Fairweather S			Hot Ice	SWACO				1				
						3	19	39				
		Hot Ice	Hot Ice	Hot Ice	Lake			61				
Consumable		Potable	Grey	Fuel	MO167	Equipmen			.			
Previous Bala	nce	4.050		7,313	25,600		Suppressan	t System Or	Single			
Received		1,250	4 000	-	3,000	Generator	Set.					
Days Usage		1,150	1,036	1,615	28 600	ł						
Accumulated On Hand		40,045 2,100	13,000 2,100	102,802 5,698	28,600	ł						
		2,100	2,100	2H=4900		J						

<u>Comments:</u> Grey water ph is 6.8. Vaporizer rate between 800 and 1100 gal. per day.



Hot Ice Project Mobilization & Installation Cost

Date: I	March	20,	2003
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Date:	March 20, 2003		Daily Total Accumulated Total	Re	Report #:		52
				_			Daily
Item	Description	Vendor	Information	QTY	RATE	HRS	Cost
1	Hot Ice Drilling Supt.	Contract	1250 per day	2	1250		2,500
2	ACS Tech Fees	ACS	1000 per day	1	1000		1,000
3	EHS Advisor	Hoefler	950 per day	1	950		950
4	Security	Doyon	600 per day	2	600		1,200
5	Soils Engineers	DMA	1200 per day	0	1200		-
6	Medic	Fairweather	1000 per day	1	1000		1,000
7	Surveyors	Lounsbury	1000 per day	0	1000		-
8	Lodging at Kupark	CPAI	100 per day	3	100		300
9	Company Pickups	Fairweather	100 per day	2	100		200
10	Mobilization/Demobilization	Catco	34 Bed Camp	1			
11	Mobilization/Demobilization	Denali	Texoma 600 Drill	1			
12	Mobilization	Catco	Out Riggers For RD-85 With Drill	1			
13	Mobilization	Catco	Mob-Demob of Kobelco excavator	0			
14	Mobilization	Catco	Gin Poles for RD-85 tractor	0	0050		0.050
15	Construction Base Camp	Catco	34 Bed Camp @ 3,250 Per Day	1	3250		3,250
16	RD-85 with Denali Drill rig	Catco	200 per hour / minimum 4 hour day	0	200	4	-
17	RD-85 with Bus & Fuel Pup	Catco	200 per hour / minimum 4 hour day	0	200	4	-
18	RD-105 Tractor & Trailer	Catco	400 per hour / minimum 4 hour day	1	400	12	4,800
19	RD-85 w/3000 gal Water House	Catco	200 per hour / minimum 4 hour day	1	200	4	800
20	RD-85 with 3000 gal Fuel Tank	Catco	200 per hour / minimum 4 hour day	1	200	4	800
21	Base Camp Loader	Catco	966 or Equivelent	1	330		330
22	Pick-Up	Catco	100 per day	1	100	10	100
23	Foreman	Catco	61 per hour	1	61	12	732
24	Operator	Catco	59 per hour	4	59	12	2,832
25	Mechanic	Catco	On Site Mechanic	1	59	12	708
26	Winterizing Const.	Ak. Dream	Field installation@\$850/man/day	7	4250		29,750
27	Drill Smart	Noble	Daily rate @ \$3000	1	3000	1	3,000
28	Mud Chiller	Drill Cool	Labor @ 500/d	0	500	1	-
29	Swaco Solids System	Swaco	Daily rate @ \$4230 incl labor	1	4230	1	4,230
30	Mattracks	Dynatec	Ford F-350 with tracks	2	208		416
31	Mattrack Drivers	Dynatec	350 per day	2	350		700
32	Light Tower	Peak	99 per day	1	99		99
33	Indirect Heater	Peak	300 per day	3	300		900
34	Security/Engineering House	Fairweather	150 per day inclusive of gen sets	0	150		-
35	50T Crane (Hot Ice)	Peak		1	1150	10	1,150
36	150 Ton Crane	Peak		1	314	12	3,768
37	82 Ton Crane (DS-2H)	Peak		0	176	10	-
38	Crane Operator	Peak		2	63	12	1,512
39	Crane Oiler/Rigger	Peak		2	46	12	1,104
40	Iron Work	VECO		3	50	12	1,800
41	Field Welders	GBR		5	80	12	4,800
42	Trucking	Peak		0	750	10	-
43	Dynatec crew	Dynatec		9	39.44	12	4,260
44	Trucking	Carlile		2	750	10	1,500
45	Loader - Hot Ice	Peak	110 per hr w/ operator	2	110	12	2,640
46	Man Lift	Peak	300 per day	3	300		900
47	Dumpster	Colville	Est della asta fan laban	1	100	4	100
48	PVT System	Pason	Est. daily rate for labor	2	800	1	1,600
49	Welding Machine	Airport Rental		1	45		45
50	Air compressor / Jack Hammer	Airport Rental		1	190		190
51	Air Fares	Lower 48	1250 per person Lower Forty Eight	2	1250		2,500
52	Air Fares	Alaska	600/person Anch/Prudhoe Bay	3	600		1,800
53	Grey Water Disposal	CPAI	f 150 Den Heursteller	0	1000		-
54	D6 Dozer	Peak	150 Per Hour w/ operator	0	150		-
55 56	Potable Water	CPAI	? 2.00 per gellen	0 4200	1000		-
56	Fuel	Nana	2.00 per gallon	4300	2		8,600

Date: 3/21/2003 Rpt. No. 53 Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From Hours Code Activity Time Summary То 0:00:00 6:00:00 6.00 Dry watch equipment and facilities. All crews working days. 6:00:00 Safety stand down and safety meeting with all personnel and APC 12:00:00 6.00 HSE Co-ordinator. 12:00:00 Move derrick sock structure on base plate to orient man door to the south. Attach fabric to derrick sock structure.Work on mount for Drill-Smart an pit volume totalizer. Work on mud line for Micromotion flow meter. Work on stairs/walkway for company man's office. Continue bolting together conexes. Swaco @ 95%; electrical at 90%; welding at 60%. 18:00:00 6.00 18:00:00 24:00:00 6.00 Dry watch equipment and facilities..All crews working days. Total 24.00 Hours Personnel In Field KCC/other DS-2H Hot Ice Equipment Location Temp. Catco 32 Bed Camp DS-2H Anadarko Rep. 2 DS-2H Anadarko HSE Wind Catco Loader Alaska Clean Seas Catco Pickup (1) DS-2H 1 Peak Light Plants (2) DS-2H Catco 6 Peak Light Plants (4) Hot Ice Global Catering 3 Doyon Security Heater (1) DS-2H 2 Heater (5) Schlumberger/Core Hot Ice 2 DS-2H Mattracks (2) Environmental 1 RT-85 w/Drill Medic 1 RT-85 w/Bus & Fuel Pup Hot Ice Nana Dynatec 2 8 Peak Loader/Cat Op RT-85 Tractor Trailer Hot Ice 2 RT-85 w/Water House DS-2H Peak Crane Crew 4 RT-85 w/ 3500 gal Fuel Hot Ice Alaska Dream 5 Peak Loader Noble 1 Hot Ice Dumpster - Colville DS-2H Arctic Catering 5 D6 Dozer CorPro/PTS 1 5 1 Manlift (2) Hot Ice APC Visitors 1 Peak 50T crane Precision Power 3 Hot Ice Drill Cool 8 Bed Sleeper/ Generator DS-2H **Engineering House** VECO Hot Ice 3 150 Ton Crane Hot Ice GBR 2 5 PASON Welding Machine Hot Ice 1 Fairweather Shack Hot Ice SWACO 1 38 4 26 Hot Ice Hot Ice Hot Ice Lake 68 Consumables Potable Grey Fuel MO167 Equipment Down: 6,124 Previous Balance 3,689 4,116 31,600 3.000 Received 1.701 3,124 vap 900 Days Usage 1,700 1,437 799 Accumulated 41,482 14,700 103,601 34,600 4,900 8,449 On Hand 4,388 2H=3400

<u>Comments:</u> Safety stand-down from 0600 to 1200 with focused safety topics presented. Preparing to break tour on 3/22. Adding night crane crew and moving one welding crew to nights.

Doyon Security moving to 2H camp.

Date:3/22/2003Rpt. No.54

Hot Ice Project Daily Mobilization & Installation Report



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From	То	Hours	Code	Activity Tir	ne Summary	/			
0:00:00	6:00:00	6.00		Dry watch e	equipment an	d facilities.			
6:00:00				Worked on	flowline				
				Continue to	work on Der	rick Sock			
				Assisted in	lab rig-up				
				Back haulin	g excess equ	uipment & ma	terial to 2-F	1	
				Set West e	nd roof section	on			
				Set Westsic	le winterization	on between ri	g and Cone	ex	
	18:00:00	12.00		Heat trace I	aw water tan	ik lines	_		
18:00:00				Hold pre-jol	o safety meet	ting. Continue	e working or	heat ductir	ig.
				Set in steps	beside beav	ver slide on di	illers side.		-
				Set in steps	on east side	e of rig.			
	24:00:00	6.00		Welder wor	king on flow l	line valve.			
	Total	24.00	Hours						
Equipment			Location	Personnel	In Field	KCC/other	DS-2H	Hot Ice	Temp.
Catco 32 Bed	Camp		DS-2H	Anadarko F	lep.			2	-26 F
Catco Loader			DS-2H	Anadarko H	ISE				Wind
Catco Pickup	(1)		DS-2H	Alaska Clea	an Seas			1	WSW 11
Peak Light Pla	ants (2)		DS-2H	Catco			6		
Peak Light Pla	ants (4)		Hot Ice	Global Cate	ering		3		
Heater (1)			DS-2H	Doyon Secu	urity		2		
Heater (5)			Hot Ice	Schlumberg	ger/Core	1	2		
Mattracks (2)			DS-2H	Environmer	ntal	1			
RT-85 w/Drill				Medic				1	
RT-85 w/Bus	& Fuel Pup		Hot Ice	Nana Dyna	tec		2	9	
RT-85 Tractor	r Trailer		Hot Ice	Peak Loade	er/Cat Op		2		
RT-85 w/Wate	er House		DS-2H	Peak Crane	e Crew		6		
RT-85 w/ 350	0 gal Fuel		Hot Ice	Alaska Drea	am			5	
Peak Loader	•		Hot Ice	Noble				1	
Dumpster - Co	olville		DS-2H	Arctic Cater	ing			5	
D6 Dozer				CorPro/PTS	3		5		
Manlift (2)			Hot Ice	APC Visitor	S			2	
Peak 50T cra	ane		Hot Ice	Precision P	ower			2	
8 Bed Sleepe	r/ Generator		DS-2H	Drill Cool				2	
Engineering H	louse		Hot Ice	VECO				3	
150 Ton Cran	e		Hot Ice	GBR			2	4	
Welding Mach	nine		Hot Ice	PASON				1	
Fairweather S	Shack		Hot Ice	SWACO				1	
						2	30	39	
		Hot Ice	Hot Ice	Hot Ice	Lake			71	-
Consumable	s	Potable	Grey	Fuel	MO167	Equipment	Down:	71	
Previous Bala	ance	4,388	4,900	8,449	34,600]			
Received		1,450	vap 900	-	3,000]			
Days Usage		1,251	1,700	1,242		I			
Accumulated						Т			
/ loodinalatoa		42,932	14,700	103,601	37,600				
On Hand		42,932 4,388	14,700 5,096	103,601 7,207	37,600				

<u>Comments:</u> Broke tour today. Working night drilling crew, one crane crew, and one welding crew.



Hot Ice Project Mobilization & Installation Cost

Report #:

55

Date:	March	23,	2003
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84,058 Daily Total 3,631,055 Accumulated Total

\$ \$

		φ 0,001,000	Accumulated Total				Daily
Item	Description	Vendor	Information	QTY	RATE	HRS	Cost
1	Hot Ice Drilling Supt.	Contract	1250 per day	2	1250		2,500
2	ACS Tech Fees	ACS	1000 per day	1	1000		1,000
3	EHS Advisor	Hoefler	950 per day	1	950		950
4	Security	Doyon	600 per day	2	600		1,200
5	Soils Engineers	DMA	1200 per day	0	1200		-
6	Medic	Fairweather	1000 per day	1	1000		1,000
7	Surveyors	Lounsbury	1000 per day	0	1000		-
8	Lodging at other camps	KCC/PBH	100 per day	2	100		200
9	Company Pickups	Fairweather	100 per day	2	100		200
10	Mobilization/Demobilization	Catco	34 Bed Camp	1			
11	Mobilization/Demobilization	Denali	Texoma 600 Drill	1			
12	Mobilization	Catco	Out Riggers For RD-85 With Drill	1			
13	Mobilization	Catco	Mob-Demob of Kobelco excavator	0			
14	Mobilization	Catco	Gin Poles for RD-85 tractor	0	0050		0.050
15	Construction Base Camp	Catco	34 Bed Camp @ 3,250 Per Day	1	3250		3,250
16	RD-85 with Denali Drill rig	Catco	200 per hour / minimum 4 hour day	0	200	4	-
17	RD-85 with Bus & Fuel Pup	Catco	200 per hour / minimum 4 hour day	0	200	4	-
18	RD-105 Tractor & Trailer	Catco	400 per hour / minimum 4 hour day		400	12	4,800
19	RD-85 w/3000 gal Water House	Catco	200 per hour / minimum 4 hour day	1	200	4 4	800
20	RD-85 with 3000 gal Fuel Tank	Catco	200 per hour / minimum 4 hour day	1	200 330	4	800
21 22	Base Camp Loader	Catco Catco	966 or Equivelent 100 per day	1	330 100		330 100
22	Pick-Up Foreman	Catco	61 per hour	1	61	12	732
23		Catco	59 per hour	4	59	12	2,832
24	Operator Mechanic	Catco	On Site Mechanic	4	59 59	12	2,832
26	Winterizing Const.	Ak. Dream	Field installation@\$850/man/day	5	850	1	4,250
27	Drill Smart	Noble	Daily rate @ \$3000	1	3000	1	3,000
28	Mud Chiller	Drill Cool	Labor @ 500/d	2	500	1	1,000
29	Swaco Solids System	Swaco	Daily rate @ \$4230 incl labor	1	4230	1	4,230
30	Mattracks	Dynatec	Ford F-350 with tracks	2	208	•	416
31	Mattrack Drivers	Dynatec	350 per day	2	350		700
32	Light Tower	Peak	99 per day	1	99		99
33	Indirect Heater	Peak	300 per day	3	300		900
34	Security/Engineering House	Fairweather	150 per day inclusive of gen sets	0	150		-
35	50T Crane (Hot Ice)	Peak		1	1150		1,150
36	150 Ton Crane	Peak		1	314	12	3,768
37	82 Ton Crane (DS-2H)	Peak		0	176		-
38	Crane Operator	Peak		2	63	12	1,512
39	Crane Oiler/Rigger	Peak		3	46	12	1,656
40	Iron Work	VECO		3	50	12	1,800
41	Field Welders	GBR		6	80	12	5,760
42	Trucking	Peak		0	750		-
43	Dynatec crew	Dynatec		9	39.44	12	4,260
44	Trucking	Carlile		2	750		1,500
45	Loader - Hot Ice	Peak	110 per hr w/ operator	1	110	12	1,320
46	Man Lift	Peak	300 per day	3	300		900
47	Dumpster	Colville		1	100		100
48	PVT System	Pason	Est. daily rate for labor	1	800	1	800
49	Welding Machine	Airport Rental		1	45		45
50	Air compressor / Jack Hammer	Airport Rental		1	190		190
51	Air Fares	Lower 48	1250 per person Lower Forty Eight	2	1250		2,500
52	Air Fares	Alaska	600/person Anch/Prudhoe Bay	3	600		1,800
53	Grey Water Disposal	CPAI	?	0	1000		-
54	D6 Dozer	Peak	150 Per Hour w/ operator	0	150		-
55	Potable Water	CPAI	? 0.00 a sa sallar	0	1000		-
56	Fuel	Nana	2.00 per gallon	9000	2		18,000

Date: Rpt. No.	3/24/2003 56		H Daily Mobiliza	ot Ice Proje Ition & Insta		ort 🚽	E Co	Anac	larko[‡]
Present Ope	ration:	Continue rig	up and constru	ction of pla	tform equip	ment.			
Accidents/In	juries:	None Reporte	ed						
<u>Safety:</u>	Headcount re	v meetings at th vealed 3 people gh advised of t	e short at must	er. All were	working an	d did not he	ar	rm/announc	ement
Environmen	tal Incidents:	10 gallon lake	water spill wh	en putting v	water into pi	t system. C	ontained o	n deck.	
			exchange fluid		ferring to D	rill Cool unit	. Valve no	t fully seate	d.
Erom	Та		within unit. Cl	•					
From 0:00:00	То	Hours	Code Ship grey wate		ne Summary		ah equipm	ont and new	heams
0.00.00			for sock base 1						
	6:00:00	6.00	Welder working					rei anu neat.	
6:00:00	0.00.00	0.00	Hold PJSM with				rick sock by	asa Sathaa	me in
0.00.00			on conexes for						
			sock and secur						
1			from totes to ur						
			laydown equipr					ompleted	
	18:00:00	12.00	flowline microm						
18:00:00	10.00.00	12.00	Hold PJSM with						11
			personnel. Hoo						
	24:00:00	6.00	mounts for crar	• •					,
	Total	18.00	Hours						
Equipment			Location	Personnel	In Field	KCC/other	DS-2H	Hot Ice	Temp.
Catco 32 Bec	l Camp		DS-2H	Anadarko R				2	-24
Catco Loader	ſ		DS-2H	Anadarko H	ISE				Wind
Catco Pickup	(1)		DS-2H	Alaska Clea	an Seas			1	calm
Peak Light Pl	ants (2)		DS-2H	Catco			6		
Peak Light Pl	ants (4)		Hot Ice	Global Cate	ering		3		
Heater (1)			DS-2H	Doyon Secu	urity		2		
Heater (5)			Hot Ice	Schlumberg	ger/Core		2	1	
Mattracks (2)			DS-2H	Environmer	ntal	1			
RT-85 w/Drill				Medic				1	
RT-85 w/Bus			Hot Ice	Nana Dynat			2	9	
RT-85 Tracto			Hot Ice	Peak Loade			2		
RT-85 w/Wat			DS-2H	Peak Crane			6		
RT-85 w/ 350			Hot Ice	Alaska Drea	am			5	
Peak Loader			Hot Ice	Noble				1	
Dumpster - C	oiville		DS-2H	Arctic Cater			<i>_</i>	5	
D6 Dozer Manlift (2)			Hot Ice	CorPro/PTS			5	1	
Peak 50T cra	ano		Hot Ice	MI Drilling F				1 2	
8 Bed Sleepe			DS-2H	Drill Cool				2	
Engineering I		+	Hot Ice	Control Cra	ft			1	
150 Ton Crar		+	Hot Ice	GBR			2	4	
Welding Mac		1	Hot Ice	PASON			-	1	
Fairweather S		1	Hot Ice	SWACO				2	
						1	30	38	
		Hot Ice		Hot Ice	Lake				
Consumable	s	Potable	Hot Ice Grey	Fuel	MO167	Equipment	Down:	69	
Previous Bala		4,388	5,800	8,911	37,600	Vaporizor de		ntrol	
Received		1,224	shp.3000	_	3,000	problems			
Days Usage		1,592	1,120	1,313					
Accumulated		44,524	16,696	103,601	40,600				
On Hand		4,515	3,920	7,598					
	Prepare to rig			2H 6555		_			

<u>Comments:</u> Prepare to rig down 150-ton crane. VECO iron workers released. Adding 4 roustabout labor 3/25 for rigup.

Date: 3/25/2003 Rpt. No. 57

Hot Ice Project **Daily Mobilization & Installation Repor**



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None Reported

Safety: Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From	То	Hours	Code		me Summar				
0:00:00			Pick up 5000 p	si hose and	hook up to c	heck valve fo	or kill line. V	Vork on mou	nts for
	6:00:00	6.00	cable on electr	ic crane. Pu	t up handrails	s. Set Koome	ey lines on o	deck and he	at.
6:00:00			Build table and	l install for g	eology trailer	Install sheav	/e on sandl	ine to clear o	conex.
			Alaska Dreams	s covering of	penings at ea	ast side of de	rrick sock.	Install moun	ts for
			electric crane of	cable on I be	ams. Lay ply	wood on de	ck for lab te	chs. Moved	X-ray
			machine aroun	nd platform w	vith crane. Ins	stalled X-ray	machine in	lab. Rig dov	vn 150
			ton crane and	moving cran	e component	ts to 2H by ro	olligon. Mec	hanic put ne	ew seals
			in fuel transfer	pump. Swad	co tested all o	of the mud ea	quipment, n	o leaks ever	ything
	18:00:00	12.00	running well.	_					
18:00:00			Install cable for						
			Welder installir	ng angle iron	n between sh	aker house a	and catwalk	, installing h	andrail
	24:00:00	6.00	on stairs to rig	floor.					
	Total	18.00	Hours			,			
Equipment			Location	Personnel		KCC/other	DS-2H	Hot Ice	Temp.
Catco 32 Bed	Camp		DS-2H	Anadarko F				3	-28
Catco Loader			DS-2H	Anadarko H		0			Wind
Catco Pickup			DS-2H	Alaska Clea	an Seas			1	5 ssw
Peak Light Pla			DS-2H	Catco			6		
Peak Light Pla	ants (4)		Hot Ice	Global Cate			3		
Heater (1)			DS-2H	Doyon Sec			2		
Heater (5)			Hot Ice	Schlumber			0	3	-2
Mattracks (2)			DS-2H	Environmer	ntal	1			
RT-85 w/Drill				Medic				1	
RT-85 w/Bus a			Hot Ice	Nana Dyna			2	9	
RT-85 Tractor			Hot Ice	Peak Loade			2		
RT-85 w/Wate			DS-2H	Peak Crane			6		
RT-85 w/ 3500) gal Fuel		Hot Ice	Alaska Drea	am			2	-2
Peak Loader			Hot Ice	Noble				1	
Dumpster - Co	olville		DS-2H	Arctic Cate				5	
D6 Dozer				CorPro/PTS			3	2	5
Manlift (2)			Hot Ice	MI Drilling F				1	
Peak 50T cra			Hot Ice	Precision P	ower			2	
8 Bed Sleeper			DS-2H	Drill Cool				2	-1
Engineering H			Hot Ice	Control Cra	ift			1	-1
150 Ton Cran			Hot Ice	GBR			2	4	-4
Welding Mach			Hot Ice	PASON				1	-1
Fairweather S	hack		Hot Ice	SWACO				2	-1
			Hot Ice	Veco			4		
					· · ·	1	30	40	-7
		Hot Ice		Hot Ice	Lake		_	71	
Consumables		Potable	Hot Ice Grey	Fuel	MO167	Equipment	Down:		
Previous Bala	nce	4,515	3,920	7,598		Vaporizor d	own with co	ontrol	
Received		1,224		-	3,000	problems			
Days Usage		1,758	1,666	1,527		4			
		1 11 50 1	16 606	103,601	12 600	1			
Accumulated On Hand		44,524 3,816	16,696 5,586	6,071	43,600	-			

Comments: 150 ton crane rigged down, being shipped to 2H Rig enclosed except for west pipe shed doors.

Date:3/26/2003Rpt. No.58

Hot Ice Project Daily Mobilization & Installation Repor



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour. Safety Orientation for visitors

Environmental Incidents: None Reported

From	То	Hours	Code	Activity Tir	ne Summar	у						
0:00:00			Complete heat	er duct work	to pipe shee	d, chipped ice	e from deck	,cleared pipe	e shed,			
	6:00:00	6.00	installed hand	rail adjacent	to beaver sli	ide, welded c	leck clips m	ounted chol	ke panel			
6:00:00			Hook up kill lin									
			system. Contin	ue houseke	eping for visi	tors. Uncrate	ed and place	ed AQMS in	drilling			
			control room. V	Vired and te	sted overhea	id crane, Mix	KCL water	. Back load	and haul			
			excess equipm	ent to 2H pa	d. (see man	ifest.) Alaska	a Dreams se	ealing mast				
	18:00:00	12.00	enclosures ope	enings. Insta	II ACS platfo	rm and ladde	er.					
18:00:00			Move welding	machines ou	t of pipe she	d. Set GBR	welder on th	ne platform.	Aircraft			
			Rentals machin	ne will be ret	urned to Dea	adhorse. Mov	/e Tioga he	ater to south	n side of			
			pipe shed. Clea	an snow fror	n pipe rack a	irea. Install g	ate in hand	rail in front c	of pipe			
	24:00:00	6.00	shed. Assembl	e pipe rack o	out of 3" x 12	"s.						
	Total	24.00	Hours									
Equipment	Total	24.00	Location	Personnel	In Field	KCC/other	DS-2H	Hot Ice	Temp.			
Catco 32 Bed	Camp		DS-2H	Anadarko F		9	1	4	-23			
Catco Loader			DS-2H	Anadarko H		0	•		Wind			
Catco Pickup			DS-2H	Alaska Clea		Ŭ		1	calm			
Peak Light Pla			DS-2H	Catco			6		ouiii			
Peak Light Pla			Hot Ice	Global Cate	rina		3					
Heater (1)				DS-2H Doyon Security 2								
Heater (5)			Hot Ice Schlumberger/Core 0 3									
Mattracks (2)			DS-2H Environmental 1									
RT-85 w/Drill				Medic				1				
RT-85 w/Bus	& Fuel Pup		Hot Ice	Nana Dyna	ec		2	9				
RT-85 Tractor			Hot Ice	Peak Loade			2					
RT-85 w/Wate	er House		DS-2H	Peak Crane	Crew		6					
RT-85 w/ 350	0 gal Fuel		Hot Ice	Alaska Drea	am			2				
Peak Loader			Hot Ice	Noble				1				
Dumpster - Co	olville		DS-2H	Arctic Cater	ing			5				
D6 Dozer				CorPro/PTS	3		3	2				
Manlift (2)			Hot Ice	MI Drilling F	luids			1				
Peak 50T cra	ine		Hot Ice	Precision P	ower			2				
8 Bed Sleepe			DS-2H	Drill Cool				2				
Engineering H			Hot Ice	Control Cra	ft			1				
150 Ton Cran			Hot Ice	GBR			2	4				
Welding Mach			Hot Ice	PASON								
Fairweather S	Shack		Hot Ice	SWACO				2				
			Hot Ice	Veco			4					
						10	31	40				
		Hot Ice		Hot Ice	Lake	L .	_	81				
Consumable		Potable	Hot Ice Grey	Fuel	MO167	Equipment						
Previous Bala	ince	4,515	3,920	6,071		Vaporizor d	own with co	ontrol				
Received		1,224	·	2,000	3,000	problems						
Days Usage		1,758	1,575	1,610	40.000		0.500	01414				
Accumulated		44,524	18,271	105,601	46,600	Transferred	6,500 gals	GW to				
On Hand		3,752	5,586	7,313		mud pits.						
-				2H 5350								

Comments:

Loaded 75 Joints 5" (134) Core Rod Into Pipe Rack Area.

Date:3/27/2003Rpt. No.59

Hot Ice Project
Daily Mobilization & Installation Repor



Present Operation: Continue rig up and construction of platform equipment.

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: Spill one quart of KCL water onto ice from shaker house. Clean and dispose of same.

0

From	То	Hours	Code	Activity Tir	ne Summar	у								
0:00:00			Finish installing											
	6:00:00	6.00	5" CHD-134 dr											
6:00:00				olatform. Welder and helper worked on Micromotion flow line sensor. Control Craft and electrician worked on M/M wiring. Mechanic, helpers and electrician worked										
			and electrician	worked on I	M/M wiring. N	/lechanic, he	lpers and el	lectrician wo	rked					
			on AQMS insta											
			standpipe blee											
			ship to 2H pad	. Electrician	pulled and c	onnected ele	ctricity to wa	aste mud co	nex.					
			Welder secure											
			shed doors. AE	3S on board	conducting	certification s	survey. Insta	all five quick	release					
	18:00:00	12.00	escape ladders											
18:00:00			Finish putting u											
	24:00:00	6.00		Check x-seal. Hook up Dowell air compressor to rig air. Put heat on accumulator.										
	Total	24.00	Hours					-						
Equipment			Location	Personnel	In Field	KCC/other	DS-2H	Hot Ice	Temp.					
Catco 32 Bed	Camp		DS-2H	Anadarko F	Rep.		1	4	-25					
Catco Loader			DS-2H	Ak Telecom	ו	0	2		Wind					
Catco Pickup			DS-2H	Alaska Clea	an Seas			1	SE 9					
Peak Light Pla	ants (2)		DS-2H	Catco			5							
Peak Light Pla	ants (4)		Hot Ice	Global Cate			3							
Heater (1)			DS-2H	Doyon Secu			2							
Heater (5)			Hot Ice	Schlumberg	ger/Core		0	3						
Mattracks (2)			DS-2H	Environmer	ntal	1								
RT-85 w/Drill				Medic				1						
RT-85 w/Bus a	& Fuel Pup		Hot Ice	Nana Dyna	tec		2	9						
RT-85 Tractor	Trailer		Hot Ice	Peak Loade	er/Cat Op		2							
RT-85 w/Wate	er House		DS-2H	Peak Crane	e Crew		2							
RT-85 w/ 3500) gal Fuel		Hot Ice	Alaska Drea	am			2						
Peak Loader			Hot Ice	Noble/ABS			1	1						
Dumpster - Co	olville		DS-2H	Arctic Cater	ring			5						
D6 Dozer				CorPro/PTS	6		4	2						
Manlift (2)			Hot Ice	MI Drilling F				1						
Peak 50T cra			Hot Ice	Precision P	ower			2						
8 Bed Sleeper	r/ Generator		DS-2H	Drill Cool				2						
Engineering H	louse		Hot Ice	Control Cra	ft			1						
150 Ton Cran	е		Hot Ice	GBR			2	4						
Welding Mach			Hot Ice	PASON			1							
Fairweather S	hack		Hot Ice	SWACO				2						
			Hot Ice	Veco			4							
						1	31	40						
		Hot Ice		Hot Ice	Lake			72						
Consumables	8	Potable	Hot Ice Grey	Fuel	MO167	Equipment								
Previous Bala	nce	3,752	5,586	7,313		Vaporizor d	own with co	ontrol						
Received				1,278	3,000	problems								
Days Usage				2,573		1								
Accumulated		44,524	20,427	105,601	49,600	1								
On Hand		3,816	2,156	8,591		l								
_				2H 8105										

Date:3/28/2003Rpt. No.60

Hot Ice Project Daily Mobilization & Installation Repor

Continue rig up and construction of platform equipment.



Present Operation:

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents:

0

From	То	Hours	Code	Activity Tir	ne Summar	у				
0:00:00			Finish hooking	up choke lin	ie.Rig up mu	d bucket line	. Set remot	e Koomey p	anel on	
			rig floor. Set te	st pump in p	ipe shed to v	varm up. Set	test plugs a	and wear rin	gs in	
	6:00:00	6.00	pipe shed. We	d escape la	dders on plat	form. Make	up kelly valv	/e. Insulates	cracks.	
6:00:00			Welder installir	ng MGS vent	t line clamps	. Mount brac	ket for BOP	remote stat	ion.	
			Function test E	OP-blind rai	ms-pipe ram	s-annular pre	eventer-HCF	R. Control lir	ne at	
			accumulator le							
			thru 5. RIH w/							
			head. Circ. mu							
			manifold,down							
	18:00:00	12.00	2H.Electrician							
18:00:00			Circulate hole.	Repair swiv	el. Hook up d	controls to ch	oke panel.	Clean straine	er in	
	24:00:00	6.00	mudline to Dril	•	•		•			
	Total	24.00	Hours							
Equipment			Location	Personnel	In Field	KCC/other	DS-2H	Hot Ice	Temp.	
Catco 32 Bed	Camp		DS-2H	Anadarko F	Rep./ABS		1	5	-25	
Catco Loader			DS-2H	Alask Telec	om	0	2		Wind	
Catco Pickup	(1)		DS-2H	Alaska Clea	an Seas			1	SE 9	
Peak Light Pla			DS-2H	Catco			5			
Peak Light Pla			Hot Ice	Global Cate	erina		3			
Heater (1)			DS-2H	Doyon Secu	•		2			
Heater (5)			Hot Ice Schlumberger/Core 3							
Mattracks (2)			DS-2H Environmental 1							
RT-85 w/Bus	& Fuel Pup		Medic 1							
RT-85 Tractor			Hot Ice	Nana Dyna	tec		2	9		
RT-85 w/Wate			Hot Ice	Peak Loade			2	-		
RT-85 w/ 350			DS-2H	Peak Crane			2			
Peak Loader	<u> </u>		Hot Ice	Alaska Drea			2			
Dumpster - Co	olville		Hot Ice	Noble	-			1		
Manlift (2)			DS-2H	Arctic Cater	rina			5		
Peak 50T cra	ine		-	CorPro/PTS				6		
150 Ton Cran			Hot Ice	MI Drilling F				1		
Welding Mach			Hot Ice	Precision P				2		
J	-			Drill Cool				2		
				Control Cra	ft			1		
				GBR			3			
		1		PASON			~	1		
				SWACO				2		
				Veco				-		
						1	24	40		
		Hot Ice		Hot Ice	Lake	I		-		
Consumable	s	Potable	Hot Ice Grey	Fuel	MO167	Equipment	Down:	65		
Previous Bala		3,816	2,156	8,591		Vaporizor d		ontrol		
Received			, , , , , , , , , , , , , , , , , , , ,	,	3,000	problems				
Days Usage		2,721	1,568	1,988	- ,	1				
Accumulated		46,952	21,995	105,601	52,600	1				
On Hand		3,943	3,724	6,603		t				
				2H 4000		4				



Hot Ice Project **Mobilization & Installation Cost**

67,602 Daily Total 4,126,588 Accumulated Total

ItemDescriptionVendorInformationQTY1Hot Ice Drilling Supt.Contract1250 per day22ACS Tech FeesACS1000 per day13EHS AdvisorHoefler950 per day14SecurityDoyon600 per day2	RATE 1250 1000 950 600 1200 1000	HRS	Daily Cost 2,500 1,000
1Hot Ice Drilling Supt.Contract1250 per day22ACS Tech FeesACS1000 per day13EHS AdvisorHoefler950 per day1	1250 1000 950 600 1200 1000	nks	2,500
2ACS Tech FeesACS1000 per day13EHS AdvisorHoefler950 per day1	1000 950 600 1200 1000		,
3 EHS Advisor Hoefler 950 per day 1	950 600 1200 1000		
	600 1200 1000		950
	1200 1000		1,200
	1000		1,200
о С			1 000
	1000		1,000
	1000		- 100
8Lodging at other campsKCC/PBH100 per day19Company PickupsFairweather100 per day2	100		200
9 Company Pickups Panweather 100 per day 2 10 Mobilization/Demobilization Catco 34 Bed Camp 1	100		200
55			
13 Mobilization Catco Mob-Demob of Kobelco excavator 0			-
14 Mobilization Catco Gin Poles for RD-85 tractor 0	2250		-
15 Construction Base Camp Catco 34 Bed Camp @ 3,250 Per Day 1	3250		3,250
16 RD-85 with Denali Drill rig Catco 200 per hour / minimum 4 hour day 0	200	4	-
17 RD-85 with Bus & Fuel Pup Catco 200 per hour / minimum 4 hour day 0 10 RD-85 Tractor % Trailing Octoo 200 per hour / minimum 4 hour day 0	200	4	-
18 RD-105 Tractor & Trailer Catco 400 per hour / minimum 4 hour day 1	400	12	4,800
19 RD-85 w/3000 gal Water House Catco 200 per hour / minimum 4 hour day 1	200	4	800
20 RD-85 with 3000 gal Fuel Tank Catco 200 per hour / minimum 4 hour day 1	200	12	2,400
21 Base Camp Loader Catco 966 or Equivelent 1	330		330
22Pick-UpCatco100 per day1	100		100
23 Foreman Catco 61 per hour 1	61	12	732
24 Operator Catco 59 per hour 3	59	12	2,124
25 Mechanic Catco On Site Mechanic 1	59	12	708
26 Winterizing Const. Ak. Dream Field installation@\$850/man/day 2	850	1	1,700
27Drill SmartNobleDaily rate @ \$30001	3000	1	3,000
28 Mud Chiller Drill Cool Labor @ 500/d 2	500	1	1,000
29 Swaco Solids System Swaco Daily rate @ \$4230 incl labor 1	4230	1	4,230
30 Mattracks Dynatec Ford F-350 with tracks 2	208		416
31 Mattrack Drivers Dynatec 350 per day 2	350		700
32 Light Tower Peak 99 per day 1	99		99
33 Indirect Heater Peak 300 per day 3	300		900
34 Security/Engineering House Fairweather 150 per day inclusive of gen sets 0	150		-
35 50T Crane (Hot Ice) Peak 1	1150		1,150
36 150 Ton Crane Peak 1	314		-
37 82 Ton Crane (DS-2H) Peak 0	176		-
38 Crane Operator Peak 1	63	12	756
39 Crane Oiler/Rigger Peak 1	46	12	552
40 Iron Work VECO 0	50	12	-
41 Field Welders GBR 2	80	12	1,920
42 Trucking Peak 1	750		750
43 Dynatec crew Dynatec 9	39.44	12	4,260
44 Trucking Carlile 2	750		1,500
45 Loader - Hot Ice Peak 110 per hr w/ operator 1	110	24	2,640
46 Man Lift Peak 300 per day 2	300		600
47 Dumpster Colville 1	100		100
48 PVT System Pason Est. daily rate for labor 1	800	1	800
49 Welding Machine Airport Rental 0	45		45
50 Air compressor / Jack Hammer Airport Rental 1	190		190
51 Air Fares Lower 48 1250 per person Lower Forty Eight 0	1250		-
52 Air Fares Alaska 600/person Anch/Prudhoe Bay 1	600		600
53 Grey Water Disposal CPAI ? 2	1000		2,000
54D6 DozerPeak150 Per Hour w/ operator0	150		-
55 Potable Water CPAI ? 2	1000		2,000
56 Fuel Nana 2.00 per gallon 0	2		-
57 Mud Engineer MI \$1000 per day 1	1000		1,000
58 Other Labor various Swaco, Control Craft (3/24)/VECO 2	1000		2,000
59 Lab Specialists CPro/LBL/Schl 9	1000		9,000
60 Helicopter Services ERA 0	2000		-
61 Mud Products / Consumables MIDF 1	1500		1,500

Date: 3/30/2003 Rpt. No. 62

Hot Ice Project Daily Mobilization & Installation Repor



Present Operation: Rigging up to run 7" scab liner, prep to spud

Accidents/Injuries: None Reported, AOGCC Inspector (John S.) witnessed BOPE Test

Safety: Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From То Hours Code Activity Time Summary 0:00:00 6:00:00 6.00 Repair leaks on Mircomotion and mud manifold valves. Circulate hole. 6:00:00 6:30:00 0.50 Conduct Prejob Safety Meeting. 6:30:00 10:00:00 3.50 Makeup Top Drive Assembly & Conduct Preliminary Test of TIW Valves Test Lower 10:00:00 15:00:00 5.00 & Upper TIW Valves to 250/3000psi. Standpipe valve to 250/3000 psi. Rig Down Top 15:00:00 Drive Test Assembly, Set Test Plug & Test Annular 250 psi. 3000psi. Test Failed. 18:00:00 3.00 Pull Test Plug and change test seal. Conduct pre job safety meeeting on rig floor. Finish cleaning and replacing rubber on 18:00:00 lower test plug. Test annular preventer to 250/3000 psi. Test outside kill line valve to 250/3000 psi. Test choke line valve to 250/3000 psi. Test pipe rams to 250/3000 psi. test inside kill line valve to 250/3000 psi. Test HCR valve to 250/30001 psi. Test Blind rams to 250/3000 psi. Test kill line check valve to 250/3000psi. Open HCR 24:00:00 6.00 valve and choke line valve, fill choke manifold with mud. Start pressure testing choke valves. 24.00 Hours Total Equipment Personnel In Field KCC/other DS-2H Hot Ice Location Temp. Catco 32 Bed Camp DS-2H Anadarko Rep. -12 4 Catco Loader DS-2H Alask Telecom Wind Catco Pickup (1) DS-2H Alaska Clean Seas 1 ese5 Peak Light Plants (2) DS-2H Catco 5 Global Catering Peak Light Plants (4) Hot Ice 3 Heater (1) DS-2H Doyon Security 2 Heater (5) Hot Ice Schlumberger/Core 3 Mattracks (2) DS-2H Environmental 1 RT-85 w/Bus & Fuel Pup Medic 1 Hot Ice Nana Dynatec 9 RT-85 Tractor Trailer 2 Hot Ice 2 RT-85 w/Water House Peak Loader/Cat Op 2 RT-85 w/ 3500 gal Fuel DS-2H Peak Crane Crew Peak Loader Hot Ice AOGCC 1 Dumpster - Colville Hot Ice Noble 1 Arctic Catering Manlift (2) DS-2H 6 Peak 50T crane Hot Ice CorPro/PTS 6 MI Drilling Fluids 150 Ton Crane Hot Ice 1 Welding Machine Hot Ice Precision Power 2 Drill Cool 1 Control Craft 1 GBR 2 PASON 1 SWACO 2 Veco 1 18 40 Hot Ice Hot Ice Lake 59 Consumables Potable Hot Ice Grey Fuel MO167 Equipment Down: **Previous Balance** 3,943 3,724 6,603 52,600 Vaporizor down with control Received 2,250 3,922 2,414 3,000 problems Days Usage 2,000 1,568 497 Accumulated 49,516 21,995 105,601 55,600 Mattrack #2 returned from repair shop and On Hand 4,115 6,272 8,520 placed back in service. 2H 3417

Comments:

Backloaded and shipped two Rolligon loads of construction materials from Hot Ice Site to 2H Pad. Completed setting of Dura-Mats on South side of accommodations.

Electricians continue installing flood lights.

Date:3/31/2003Rpt. No.63

Hot Ice Project Daily Mobilization & Installation Repor



Present Operation: Coring @ 114'

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From	То	Hours	Code		me Summai				
0:00			Prssure test K						e manifold
	1:00	1.0	valves, and ac	cumulator p	ressures250)/3000 psi. pe	er AOGCC	-	
1:00			Clean excess	equipment f	rom pipe she	ed. Load 7" c	sg. and cs	g. hanger in	pipe
	6:00	5.0	shed. Make up	hanger and	d RIH. Meas	urement fron	n top of hai	nger to RKB	14.67.
6:00	6:30	0.5	Pre- job safety						
6:30			Run scab liner	. 5 joints of	26# J 55 7"	csg.and csg	. hanger. R	KB to BTM.	107.3'.
			RKB to hange	r -14.67', ha	nger-1.95', k	KB-1.55' jt #1	-21.51', jt #	#2-21.56', jt	#3-20.65',
	12:00	5.5	jt#4-19.18', jt#	5-5.21'. Tota	al Length=10	6.3'.			
12:00	16:00	4.0	RIG UP.						
16:00	18:00	2.0	P/U core barre	and install	data logger	into inner tul	be.		
18:00	20:00	2.0	Pre spud meet	ting with all	personnel.				
20:00			Fix hydraulic le			ipment,Test I	lubricator to	o 250 psi. S	tab
	24:00:00	4.0	Rotating head			•		•	
	Total	24.00	Hours			-			
Equipment			Location	Personnel	In Field	KCC/other	DS-2H	Hot Ice	Temp.
Catco 32 Bed	Camp		DS-2H	Anadarko F				4	-17
Catco Loader			DS-2H	Alask Tele					Wind
Catco Pickup			DS-2H	Alaska Cle				1	ESE 10
Peak Light Pla	()		DS-2H	Catco			5		
Peak Light Pla			Hot Ice	Global Cat	erina		3		
Heater (1)			DS-2H	Doyon Sec			2		
Heater (5)			Hot Ice Schlumberger/Core 3						
Mattracks (2)			DS-2H Environmental 1						
RT-85 w/Bus	& Fuel Pup		00211	Medic				1	
RT-85 Tractor			Hot Ice	Nana Dyna	itec		2	9	
RT-85 w/Wate			Hot Ice	Peak Load			2	0	
RT-85 w/ 350			DS-2H	Peak Cran	I		2		
Peak Loader	o gui i dei		Hot Ice	AOGCC			4		
Dumpster - Co	olville		Hot Ice	Noble				1	
Manlift (2)	orvine		DS-2H	Arctic Cate	ring			5	
Peak 50T cra	no		Hot Ice	CorPro/PT				6	
150 Ton Cran			Hot Ice	MI Drilling				1	
Welding Mach			Hot Ice	Precision F				1	
				Drill Cool	Ower			1	
				Control Cra	oft			1	
				GBR	ait.		2	1	
				PASON			2	1	
				SWACO		╂───┤		2	
				Veco		╂───┤	4	2	
				v ecu		1	22	37	
		Hot Ice		Hot Ice	Lake		22	51	
Consumable	e .	Potable	Hot Ice Grey	Fuel	MO167	Equipment	Down	60	
Previous Bala	-		6,272	8,520		Vaporizor d		ontrol	
Received		4,115				problems		UNUU	
Days Usage		<u>1,250</u> 1,818	1,250	4,000 603	3,000				
Accumulated		,	2,450	105,601	59 600	4			
		50,766	,		58,600	ł			
On Hand		4,166	3,528	7,917		J			
_				2H 7800					

4/1/2003 Date: 64 Rpt. No.

Hot Ice Project Daily Drilling Report



Operation @ 0600: Coring @ 213'

Accidents/Injuries: None Reported

Safety: Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From	То	Hours	IADC Code			ry			
0:00	1:00	1.0	6	Trip in to 10	07.3' KB				
1:00	3:30	2.5	5	Circ. and co	ond. mud				
3:30	4:00	0.5	4	Cut core fro	om 107.3' to	114.3'. Spue	d time @ 0	325 hrs., 4/	1/03
4:00	12:30	8.5	1	Rig up muc	box, prep. I	ubricator, cle	ean rig floo	r. Calibrate	Pason
					or, wireline s		•		
12:30	23:00	10.5	4		114.3' to 212				
23:00	23:30	0.5	4			ore retrieving	line parte	d.	
23:30	0:00	0.5	6		•	trieving line.	,		
20.00	0.00	0.0	· ·			nd recovered	102 9' (97	5% recove	rv)
						coal stringers	•		• ·
	Total	24.00	Hours						
Equipment	. 500		Location	Personnel	In Field	KCC/other	DS-2H	Hot Ice	Temp.
Catco 32 Bed	d Camp		DS-2H	Anadarko F				4	-1
Catco Loader			DS-2H	USGS	p.	<u> </u>		1	Wind
Catco Pickup			DS-2H	Alaska Clea	an Seas			1	SSE-16
Peak Light Pla			DS-2H	Catco			5	1	002-10
Heater (3)			00-211	Global Cate	aring		3		
Mattracks (2)				Doyon Sec		2			
RT-85 Tractor			Hot Ice	Schlumber		2 3			
RT-85 w/Wate			DS-2H	Environme					
			D9-2H	Medic	IIIai				
RT-85 w/ 350					100				
Peak Loader				Nana Dyna			2	9	
Dumpster - C	JOIVIIIE			Peak Load			0		
Manlift (1)			Hot Ice	Peak Crane	e Crew		2		
Peak 50T cra			Hot Ice	AOGCC				1	
Welding Mach		T '	Hot Ice	Noble	· · · ·	-		1	
	ud Report		of day	Arctic Cate				5	
Mud pro	operties @	1200	2300	CorPro/PTS				6	
	MW	9.0	9.0	MI Drilling I				1	
	Funnel Visc.	62.0	57.0	Precision P	ower			2	
	PV	14.0	15.0	Drill Cool				1	
	YP	26.0	27.0	Control Cra	aft			1	
	F/L	9.2	8.0	GBR			2		
F	Flowline Temp.	28.0	30.0	PASON				1	
	pН	7.0	7.0	SWACO				2	
Chlorie	des(mg/l)/Ca++	63000/160	59000/240	Veco			4		
	% CaCl					1	20	39	
		Hot Ice		Hot Ice	Lake			60	
				Eucl	MO167	Equipment	Down:	50	
Consumable		Potable	Hot Ice Grey						
Previous Bala		4,166	Hot Ice Grey 3,528	7,917	58,600	- ·	own with c	ontrol	
Previous Bala Received		4,166 2,148	3,528	7,917		Vaporizer de problems	own with c	ontrol	
Previous Bala		4,166		7,917	58,600	- ·	own with c	ontrol	
Previous Bala Received	ance	4,166 2,148	3,528	7,917	58,600	- ·	own with c	ontrol	

Comments: Spudded at 0325 hrs on 4/1/03.

Date:4/2/2003Rpt. No.65

Hot Ice Project Daily Drilling Report



Operation @ 0600: Coring @ 359'

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From	То	Hours	IADC Code	Activity Ti	me Summary	/			
0:00	2:00	2.0	6	POOH. Re	pair core retr	ieval line. C	heck bit, Ok	K. RIH to	
2:00	6:00	4.0	6	Work on Be	an pump, No	flow, Blow	down lines,	Circ intermi	ttently
6:00	10:00	4.0	4	Core From	214' to 252'				-
10:00	12:00	2.0	6	Drill Cool P	late Exchang	er Froze Up	, Circ & Coo	W/Fin Fan	Unit
12:00	13:00	1.0	4	Core From	252' to 255'				
13:00	20:00	7.0	5	Circulate &	Condition Fo	aming Mud	- & Chill Sa	ne	
20:00	0:00	4.0	4	Core from 2	255' to 291'.	Intermittant	pump suctio	n problems-	Bean
				pump loosi					
					•				
				Total core of	cut past 24 ho	ours: 77'. R	Recovered 7	7' (100%)	
				Predominat	tely sandston	e with interb	edded mud	stone and	
				occasional	ice lenses.				
	Total	24.00	Llaura						
Equipment	Total	24.00	Hours Location	Data	Logger Sur	VAVS	Mud Su	rface Temp	oraturo
Catco 32 Bed	Camp		DS-2H	Depth	Inclination	Temp	Time	In	
Catco Loader			DS-2H DS-2H	Deptil	memation	remp	THIE	111	Out
Catco Loader			DS-2H DS-2H	NO	DATA				
Peak Light Pla	()		DS-2H	NO	DATA				
Heater (1)			Hot Ice				1800	32.6	33.9
Mattracks (2)			DS-2H				2000	30	30
RT-85 Tractor	Trailer		DS-2H				2400	26	25.5
RT-85 w/Wate			DS-2H	Temp.			2400	20	20.0
RT-85 w/ 3500			Hot Ice	4					
Peak 50T cra			Hot Ice	Wind					
Welding Mach			Hot Ice	WSW-7					
			1101100		L				
Daily M	ud Report	Time	of day	Chemic	als Mixed				
Mud pro	perties @	1500	2330	DefoamX	60 gal				
	MW	9.1	9.1	Croon aida					
	Funnel Visc.			Green-cide	5 gal				
	i unifier visc.	43.0	45.0	Green-cide	5 gal				
	PV	<u>43.0</u> 13.0		Green-cide	5 gal				
			45.0	Green-cide	5 gal				
	PV	13.0	45.0 12.0		5 gal				
 F	PV YP	13.0 15.0	45.0 12.0 16.0	Green-cide	5 gal				
	PV YP F/L Flowline Temp. pH	13.0 15.0 8.6 36.0 7.0	45.0 12.0 16.0 7.6		5 gal				
	PV YP F/L Flowline Temp.	13.0 15.0 8.6 36.0 7.0 62000/240	45.0 12.0 16.0 7.6 31.0		5 gal				
	PV YP F/L Flowline Temp. pH	13.0 15.0 8.6 36.0 7.0 62000/240 11.0	45.0 12.0 16.0 7.6 31.0 7.0 60000/240 11.0		5 gal				
	PV YP F/L Flowline Temp. pH des(mg/l)/Ca++	13.0 15.0 8.6 36.0 7.0 62000/240 11.0 22°F	45.0 12.0 16.0 7.6 31.0 7.0 60000/240		5 gal				
Chlorid	PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	13.0 15.0 8.6 36.0 7.0 62000/240 11.0 22°F Hot Ice	45.0 12.0 16.0 7.6 31.0 7.0 60000/240 11.0 22°F	Hot Ice	Lake	l			
Chlorid	PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s	13.0 15.0 8.6 36.0 7.0 62000/240 11.0 22°F Hot Ice Potable	45.0 12.0 16.0 7.6 31.0 7.0 60000/240 11.0 22°F Hot Ice Grey	Hot Ice Fuel	Lake MO167	Equipment			
Chlorid Consumables Previous Bala	PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s	13.0 15.0 8.6 36.0 7.0 62000/240 11.0 22°F Hot Ice Potable 4,324	45.0 12.0 16.0 7.6 31.0 7.0 60000/240 11.0 22°F Hot Ice Grey 5,684	Hot Ice	Lake MO167 61,600	Vaporizer c	<u>t Down:</u> Iown with co	ntrol	
Chlorid Consumables Previous Bala Received	PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s	13.0 15.0 8.6 36.0 7.0 62000/240 11.0 22°F Hot Ice Potable 4,324 2,311	45.0 12.0 16.0 7.6 31.0 7.0 60000/240 11.0 22°F Hot Ice Grey 5,684 ship 2400	Hot Ice Fuel 7,171	Lake MO167			ntrol	
Chlorid Consumables Previous Bala Received Days Usage	PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s	13.0 15.0 8.6 36.0 7.0 62000/240 11.0 22°F Hot Ice Potable 4,324 2,311 2,120	45.0 12.0 16.0 7.6 31.0 7.0 60000/240 11.0 22°F Hot Ice Grey 5,684 ship 2400 1,518	Hot Ice Fuel 7,171	Lake MO167 61,600 3,000	Vaporizer c		ntrol	
Chlorid Consumables Previous Bala Received	PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s	13.0 15.0 8.6 36.0 7.0 62000/240 11.0 22°F Hot Ice Potable 4,324 2,311	45.0 12.0 16.0 7.6 31.0 7.0 60000/240 11.0 22°F Hot Ice Grey 5,684 ship 2400	Hot Ice Fuel 7,171 994 106,347	Lake MO167 61,600	Vaporizer c		ntrol	

<u>Comments:</u> Anadarko day tour via chopper.

Date:4/3/2003Rpt. No.66

Hot Ice Project Daily Drilling Report



Operation @ 0600: Coring @ 533'

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

0:00 6:00	6:00	6.0	4	Continent from					
6:00			-	Coring from	n 291' to 359'				
6:00				Cleaned su	ction screen,	coal flakes			
	0:00	18.0	4		n 359' to 488'				
le la					10' of core be		and 385. Ve	erv sandv a	nd friable.
					et catcher but				
				Cored 197'	and recovere	ed 167 9' (8	5% recoverv	1	
					tely sandy silf				erate
					silt stringers				01010
					, ent et ingere				
				Changing s	haker screen	s frequently	to minimize	mud loss	
					t 175 over 50			110000.	
				Currently a		meon.			
	Total	24.00	Hours						
Equipment			Location	Data	Logger Sur	veys	Mud Su	rface Temp	erature
Catco 32 Bed	Camp		DS-2H	Depth	Inclination	Temp	Time	In	Out
Catco Loader			DS-2H				0:00	26	25.5
Catco Pickup	(1)		DS-2H				6:00	27.5	27.2
Peak Light Pla			DS-2H				12:00	31	27
Heater (1)			Hot Ice				18:00	27.2	26.8
Mattracks (2)			DS-2H				24:00:00	26.3	24.8
RT-85 Tractor	Trailer		DS-2H						
RT-85 w/Wate			DS-2H	Temp.					
RT-85 w/ 3500			Hot Ice	6		Rotary	140-160		
Peak 50T cra			Hot Ice	Wind		WOB	est 500#		
Welding Mach			Hot Ice	WSW-14		Flow(gpm)	30-40		
<u></u>					l				
Daily Mu	ud Report	Time	of day	Chemic	als Mixed				
Mud pro	perties @	10:00	23:00	DeFoamX	20 gal.	-			
	MW	9.1	9.2	Greencide	5 gal.				
	Funnel Visc.	45.0	45.0	1					
	PV	12.0	11.0	Ambient fre	ezing test on	mud:			
	YP	17.0	17.0	slushy belo					
	F/L	7.8	6.2	1					
F	lowline Temp.	31.0	29.0	1					
	pH		7.0	1					
Chloric	des(mg/l)/Ca++		59000/240	1					
	%KCL	11.0	11.0	1					
	Freeze Point		22.0	1					
		Hot Ice	-	Hot Ice	Lake				
Consumables	3	Potable	Hot Ice Grey	Fuel	MO167	Equipmen	t Down:		
Previous Bala		4,515	4,802		64,600				
Received	ľ	2,085	ship 2205	2,400	3,000	İ			
Days Usage	-	2,403	1,911	1,690		İ			
Accumulated	-	54,876	28,830	108,037	67,600	t i			
			5,096		,	İ			
On Hand		4,197	5,090	0,007					

<u>Comments:</u> Schlumberger onsite preping for receiving cement. Photographers onsite. Date:4/4/2003Rpt. No.67

Hot Ice Project Daily Drilling Report



Operation @ 0600:

Accidents/Injuries:

Rig repair. Repair hydraulic control hose rack in mast. Guide roller jumped track Repair work started @0215. Lost prime in charge pump to DrillCool. Aerated mud. None Reported (Blowing down mud lines to prevent freezing.)

<u>Safety:</u> Pre-job safety meetings at the start of each tour. Kick/BOP drills on each tou

Environmental Incidents: None Reported

Current Depth (0600) 732' Footage This Report 217'

0:00 6:00 6:00 4 Coring From 488 To 533 Run single shot survey at 504'. 6:00 7:00 8:00 1.00 5 Circulate & Condition Mud 8:00 13:45 5:75 4 Core From 534' To 614' - Circulate B/U Prior To Pulling Core 13:43 18:00 3:60 4 Core From 614' To 655' - Circulate B/U Prior To Pulling Core 18:00 0:00 6:00 4 Core from 665' to 705, Circ. BU after each core. 18:00 0:00 6:00 4 Core from 665' to 705, Circ. BU after each core. 18:00 0:00 6:00 4 Core from 665' to 705, Circ. BU after each core. Kick drill while drilling-deg5' (220hrs) performed dynamic kill procedure (60 gm & 200 pm)(ECD incr. calc. 0.85 pp) Circ 217'; recovered 21.19 (97.6%) Cate 24.00 Hours Cumulative recovery of 559.7' (93.8%) Rental Equipment Location Data Logger Surveys Mud Surface Temp. MicroM Cateo Dickup (1) DS-2H Depth Inclination Temp Im Out Cateo Coader DS-2H Depth 1.100 26.0 <td< th=""><th>From</th><th>То</th><th>Hours</th><th>IADC Code</th><th>Activity Ti</th><th>me Summar</th><th>/</th><th></th><th></th><th></th></td<>	From	То	Hours	IADC Code	Activity Ti	me Summar	/			
7:00 8:00 11.00 5 Circulate & Condition Mud 8:00 13:45 5.75 4 Core From 547 To 614' - Circulate B/U Prior To Pulling Core 13:45 14:30 18:00 3.50 4 Core From 647' To 665' - Circulate B/U Prior To Pulling Core 18:00 0:00 6:00 4 Core From 655' to 750'. Circ. B/U after each core. Kick drill while drilling695' (2230Frs) performed dynamic kill procedure (60 gom 8: 200 rm)(ECD incr. calc. 0.85 ppg) Cut 217'; recovered 211.9' (97.6%) Garavel with interbedded silts and sands with some coal. Last 50' predominately sand with interbedded silts and gravel. Curulative recovery of 559.7' (93.8%) Care Tom 52.2H Depth Catco 32 Bed Camp DS-2H Depth Inclination Catco 12 Bed Camp DS-2H 12' 0.00:00 26.3 24.8 Catco 12 Bed Camp DS-2H 12' 0.00:00 25.8 25.3 Mattracks (2) DS-2H 12' 0.00:00 26.0 24.0 RT-35 wiX800 gal Fuel Hot Ice 4 18:00 25.6 25.3 Mattrack	0:00	6:00	6.00	4	Coring Fro	m 488' To 53	3' Run sing	le shot surve	y at 504'.	
8:00 13:45 5.75 4 Core From 547 To 614' - Circulate BU Prior To Pulling Core 13:45 14:30 0.75 5 Circulate & Condition Mud - Flow Check Well 18:00 0:00 6.00 4 Core From 614' To 665' - Circulate BU Prior To Pulling Core 18:00 0:00 6.00 4 Core From 65' to 705'. Circ. B/U after each core. Kick drill while drilling-696' (2230hrs) performed dynamic kill procedure (60 gpm & 200 rpm)(ECD Incr. calc. 0.85 ppg) Cut 217': recovered 211.9' (97.6'%) Care Torm 365' to 705'. Oric. B/U after each core. Cut 217': recovered 211.9' (97.6'%) Care Torm 365' to 705'. Oric. B/U after each core. Cut 217': recovered 211.9' (97.6'%) Care Torm 365' to 705'. Oric. B/U after each core. Cut 217': recovered 211.9' (97.6'%) Care Torat 2.00 Hours Cut 217: recovered 211.9' (97.6'%) Care Torat 2.00 DS-2H Depth Inclination Catco Dickup (1) DS-2H Depth Inclination Catco Dickup (1) DS-2H Depth 11/2:0 26.0 Catco Dickup (1) DS-2H Encore 11/2:0 26.0 25.3 Mattracots (2)<	6:00	7:00	1.00	4	Core From	533' To 547'	-		-	
13:45 14:30 0.75 5 Circulate & Condition Mud - Flow Check Well 14:30 18:00 3:50 4 Core From 614' To 665' to 705'. Circ. B/U after each core. 18:00 0:00 6:00 4 Core From 665' to 705'. Circ. B/U after each core. 19:00 0:00 6:00 4 Core from 665' to 705'. Circ. B/U after each core. 10:01 0:00 0:00 6:00 4 Core from 665' to 705'. Circ. B/U after each core. 10:01 0:00 0:00 0:00 6:00 0:00 Circ 400 after ach core. 11:01 0:01 0:00 0:00 0:00 0:00 Circ 30: 28:00 rpm(ECD incr. ach 0.85 ppg) 11:01 Catco 1 Data Logger Surveys Mud Surface Temp. MicroM Catco 28: 28: 60 Camp DS-2H Depti Inclination Temp Time In Out Catco 10: 28: 60 Camp DS-2H 504' 1/2'2 0:00:00 26:3 24:8 Catco 10: 28: 60 Camp DS-2H Detito Instito	7:00	8:00	1.00	5	Circulate &	Condition M	bu			
13:45 14:30 0.75 5 Circulate & Condition Mud - Flow Check Well 14:30 18:00 3:50 4 Core From 614' To 665' to 705'. Circ. B/U after each core. 18:00 0:00 6:00 4 Core From 665' to 705'. Circ. B/U after each core. 19:00 0:00 6:00 4 Core from 665' to 705'. Circ. B/U after each core. 10:01 0:00 0:00 6:00 4 Core from 665' to 705'. Circ. B/U after each core. 10:01 0:00 0:00 0:00 6:00 0:00 Circ 400 after ach core. 11:01 0:01 0:00 0:00 0:00 0:00 Circ 30: 28:00 rpm(ECD incr. ach 0.85 ppg) 11:01 Catco 1 Data Logger Surveys Mud Surface Temp. MicroM Catco 28: 28: 60 Camp DS-2H Depti Inclination Temp Time In Out Catco 10: 28: 60 Camp DS-2H 504' 1/2'2 0:00:00 26:3 24:8 Catco 10: 28: 60 Camp DS-2H Detito Instito	8:00	13:45	5.75	4	Core From	547' To 614'	- Circulate I	B/U Prior To	Pulling Core	е
14:30 18:00 0:00 3.50 4 Core From 614 To 665' to 705'. Circ. BVU after each core. Kick drill while drilling-B95' (2230hrs) performed dynamic kill procedure (60 gpm & 200 rpm)(ECD incr. catc. 0.85 ppg) Cut 217'; recovered 211.9' (97.6%) Gravel with interbedded silts and sands with some coal. Last 50' predominately sand with interbedded silts and gravel. Cumulative recovery of 55.7' (33.8%) Total 24.00 Hours Mud Surface Temp. MicroM Rental Equipment Location Data Logger Surveys Mud Surface Temp. MicroM Catco J2 Bed Camp DS-2H Depth Inclination Temp In Out Catco Loader DS-2H D64 1/2' 0.0000 26.3 24.4 Catco Pickup (1) DS-2H Depth Inclination Temp In Out Catco Cader DS-2H Depth Inclination Temp In Out Catco Dickup (1) DS-2H Dest 12:00 26.6 25.3 RT-85 w/ Mater House DS-2H Temp. Temp. Reater (1) Reater (1) Hot Ice Wielding Mater House Sec.4 Sec.0 26.0 22.0<	13:45	14:30	0.75	5					0	
18:00 0:00 6.00 4 Core from 665 to 705. Circ. B/U after each core. Kick drill while drilling-695 (2230hrs) performed dynamic kill procedure (60 gpm & 200 rpm)(ECD incr. calc. 0.85 ppg) Cut 217: recovered 211.9' (97.6%) Gravel with interbedded silts and sands with some coal. Last 50' predominately sand with interbedded silts and gravel. Cumulative recovery of 559.7' (93.8%) Rental Equipment Location Data Logger Surveys Mud Surface Temp. MicroM Catco 32 Bed Camp DS-2H Catco 32 Bed Camp DS-2H Dott inclination Time In Outo Catco 24 Camp DS-2H Dott inclination Time In Outo Catco 21 Coder DS-2H Dott inclination Time In Outo Catco 21 Coder DS-2H 504' 1/2' 0:00:00 26.3 24.8 Catco Dickup (1) DS-2H DS-2H Inclination Temp. Trace 12:00 26.0 26.4 25:0 Peak Light Plants (1) DS-2H Temp. Temp. 12:00 26.0 24:0 24:0:0:0 26:0 25:3 RT-85 w/3500 gal Fuel Hot Ice Wind Mud properties (2)	14:30	18:00	3.50		Core From	614' To 665'	- Circulate I	B/U Prior To	Pulling Core	е
Inick drill while drilling-696' (220)rs) performed dynamic kill procedure (60 gpm & 200 rpm)(ECD incr. calc. 0.85 ppg) Cut 217; recovered 211.9' (97.6%) Gravel with interbedded silts and sands with some coal. Last 50' predominately sand with interbedded silts and gravel. Cumulative recovery of 559.7' (93.8%) Rental Equipment Location Data Logger Surveys Mud Surface Temp. MicroM Catco Jacker DS-2H Depth Inclination Temp Im Out Catco Loader DS-2H 504' 1/2° 0:00:00 26.3 24.8 Catco Loader DS-2H 504' 1/2° 0:00:00 26.4 25.0 Peak Light Plants (1) DS-2H 0 12:00 26.6 25.3 Matracks (2) DS-2H 12:00 26.0 24.0 RT-85 W/3500 gal Fuel Hot Ice -4 Peak S0T crane 10:0 25.6 25.3 Mud properties @ 11:00 22:00 16.0 Pit 1.0 24:00:0 26.0 24:0 MW drine Hot Ice -4 Peak S0T crane Pit 2.0 10:0 22:0 10:0 22:0 26:0 24				4						
Total Procedure (60 gpm Å 200 rpm)(ECD incr. calc. 0.85 ppg) Cut 217; recovered 211.9; (97.6%) Gravel with interbedded silts and sands with some coal. Last 50° predominately sand with interbedded silts and gravel. Cumulative recovery of 559.7; (93.8%) Total 24.00 Hours MucroMinitely sand with interbedded silts and gravel. Cumulative recovery of 559.7; (93.8%) Rental Equipment Location Data Logger Surveys Mud Surface Temp. MicroM Catco 23 Bed Camp DS-2H Depth Inclination Temp Catco 24 Bed Camp DS-2H Depth Inclination Temp Catco 24 Bed Camp DS-2H 504' 1/2° 0:00:00 26.3 24.8 Catco Loader DS-2H Inclination Temp Temp 12:00 25.8 24.4 Heate (1) Hot Ice Instructure Instructure 24:00:00 26.0 24.0 R1-85 modoo gal Fuel Hot Ice SW-6 Instructure Instructure <t< td=""><td></td><td></td><td></td><td></td><td>Kick drill w</td><td>hile drilling6</td><td>95' (2230hr</td><td>s) performed</td><td>dynamic ki</td><td>II</td></t<>					Kick drill w	hile drilling6	95' (2230hr	s) performed	dynamic ki	II
Cut 217: recovered 211.9 (P 6%) Gravel with interbedded silts and sands with some coal. Last 50' predominately sand with interbedded silts and gravel. Cumulative recovery of 559.7 (93.8%) Rental Equipment Location Data Logger Surveys Mud Surface Temp. MicroM Catco Loader DS-2H Depth Inclination Temp Time In Out Catco Loader DS-2H 504' 1/2° 6:00 26.3 24.8 Catco Dickup (1) DS-2H 504' 1/2° 6:00 26.3 24.8 Catco Coader DS-2H 12:00 25.8 24.4 Heater (1) Hot Ice 18:00 25.6 25.3 Matracks (2) DS-2H 24:00:00 26.0 24.0 RT-85 ractor Trailer DS-2H 12:00 26.0 24.0 RT-85 ractor Trailer DS-2H Temp. 24:00:00 26.0 24.0 RT-85 ractor Trailer Hot Ice Wind Start										
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Catco Pickup (1) DS-2H 6:00 26.4 25.0 Peak Light Plants (1) DS-2H 12:00 25.8 24.4 Heater (1) Hot Ice 18:00 25.6 25.3 Mattracks (2) DS-2H 24:00:00 26.0 24.0 RT-85 Tractor Trailer DS-2H 24:00:00 26.0 24.0 RT-85 W/Water House DS-2H Temp. 7 7 7 RT-85 W3500 gal Fuel Hot Ice 44 9 9.14 9.1+ 9.1+ Welding Machine Hot Ice SW-6 SW-6 SW-6 SW-6 Mud properties @ 11:00 22:00 DefoamX 100 gal 7 Flue 45.0 45.0 10.0 100 gal 7 Flue 5500/280 54000/240 5500/280 54000/240 7 %KCL Freeze Point 22.0 22.0 24.00 16.0 Freeze Point 52.0 22.0 24.0 24.00 for 7	Catco 32 Bed	Camp		DS-2H	Depth	Inclination	Temp	Time	In	Out
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Heater (1) Hot Ice 18:00 25.6 25.3 Mattracks (2) DS-2H 24:00:00 26.0 24.0 RT-85 WWater House DS-2H Temp. 18:00 26.0 24.0 RT-85 WWater House DS-2H Temp. 18:00 26.0 24.0 RT-85 WWater House DS-2H Temp. 10:0 20:0	Catco Pickup	(1)		DS-2H				6:00	26.4	25.0
Mattracks (2) DS-2H 24:00:00 26.0 24.0 RT-85 Tractor Trailer DS-2H Image: Construct of Construction of Conste	Peak Light Pla	ants (1)		DS-2H				12:00	25.8	24.4
RT-85 Tractor Trailer DS-2H Temp. RT-85 W/Water House DS-2H Temp. RT-85 W/3500 gal Fuel Hot lce -4 Peak 50T crane Hot lce Wind Welding Machine Hot lce SW-6 Mud properties @ 11:00 22:00 MW 9.1+ 9.1+ Funnel Visc. 45.0 45.0 PV 22.0 DefoamX 100 gal YP 20.0 16.0 F/L 6.4 6.6 Flowline Temp. 26.0 25.0 PV 22.0 22.0 KCL 11.0 11.0 Freeze Point 22.0 22.0 Wolding Hot Ice Fuel MO167 Freeze Point 22.0 22.0 Previous Balance 4.197 5.096 Rceived 1.992 ship2303 3.700 Roteived 1.674 1.568 1.605 Accumulated 56.550 30.398 107.952	Heater (1)			Hot Ice				18:00	25.6	25.3
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Mud properties @ 11:00 22:00 DefoamX 100 gal MW 9.1+ </td <td>Welding Mach</td> <td>nine</td> <td></td> <td>Hot Ice</td> <td>SW-6</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Welding Mach	nine		Hot Ice	SW-6					
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On Hand 4,515 4,361 8,982						67 600	l			
						07,000	ł			
			4,515	4,501			I			

Comments:

Received 600 cubic feet blended cement in silo. Conducted BOP drill - 45 seconds. Date: 4/5/2003 Rpt. No. 68 Hot Ice Project Daily Drilling Report



742

27'

596.5

585.4 98.1%

Current Depth (0600)

Footage This Report

Total Well Footage Cored

Total Well Core Recovered

Core Recovery Percentage

Operation @ 0600: Coring @ 742

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour. Actuated BOP rams on trip out.

Environmental Incidents: None Reported

From	То	Hours	IADC Code	Activity Ti	me Summary	/				
0:00	2:30	2.50	4	•						
2:30										
							• •	•	n to	
	6:00	3.50	8	 derrick. Circulate while repairing. Lost charge pump suction to DrillCool unit. Blow down mud lines to prevent freezing. Continue Repair Rig, Establish circulation loop of surface equipment Attempt to Circulate Down Core String - No GO Attempt to retrieve inner core barrel - No Go - Parted Wire line Pull Out Of Hole With Wet String - Continuous Surface Circ Loop Remove Inner Core Barrel - Reason Stuck & Couldn't Circulate was Small Rocks & Sand Packed Between Inner & Outer Barrel. Make Up New PDC Bit & Reaming Shell. Function Tested Blind Rams, Circ In Kill Line & Out Choke Line, Blow Down Same. Clean Rig Floor & Well Cellar With Steam Washer & Vacuum Sys. RIH to 296'. Pulled inner barrel, tight. POH to 96' to circ & cool mud Circ. & cond. mud. Cool surface mud system. RIH at 650'. Broke circ. at 400'.0 Past 24 hrs.: Cored 26' & recover 25.7' (98.8%) Sandstone & grave 						
6:00				Rig Repair. Roller on hydraulic hose rack jumped guide track in derrick. Circulate while repairing. Lost charge pump suction to DrillCool unit. Blow down mud lines to prevent freezing. Continue Repair Rig, Establish circulation loop of surface equipmer Attempt to Circulate Down Core String - No GO 4 Attempt to Circulate Down Core String - No GO 4 Attempt to retrieve inner core barrel - No Go - Parted Wire line 6 Pull Out Of Hole With Wet String - Continuous Surface Circ Loop Remove Inner Core Barrel - Reason Stuck & Couldn't Circulate was 6 Small Rocks & Sand Packed Between Inner & Outer Barrel. Make Up New PDC Bit & Reaming Shell. Function Tested Blind 6 Rams, Circ In Kill Line & Out Choke Line, Blow Down Same. 21 Clean Rig Floor & Well Cellar With Steam Washer & Vacuum Sys. 6 RIH to 296'. Pulled inner barrel, tight. POH to 96' to circ & cool mu Circ. & cond. mud. Cool surface mud system. 6 RIH at 650'. Broke circ. at 400'.0 Past 24 hrs.: Cored 26' & recover 25.7' (98.8%) Sandstone & gra ation Data Logger Surveys Mud Surface Temp. Micro 21 12:00 22 12:00 23:00 DefoamX 100 gal						
	8:30	1.50	8							
8:30	9:00	0.50	4							
9:00	14:00	5.00	6							
14:00										
	15:30	1.50	6	Small Rock	ks & Sand Pa	cked Betwee	en Inner & O	uter Barrel.		
15:30						•				
	16:00	0.50		-						
16:00	19:00	3.00	21							
19:00	20:00	1.00	6	5 Circ. & cond. mud. Cool surface mud system. 6 RIH at 650'. Broke circ. at 400'.0 Past 24 hrs.: Cored 26' & recover 25.7' (98.8%) Sandstone & grave ion Data Logger Surveys Mud Surface Temp. Micro I Depth Inclination Temp Time In						
20:00	22:15	2.25	5	5 Circ. & cond. mud. Cool surface mud system. 6 RIH at 650'. Broke circ. at 400'.0 Past 24 hrs.: Cored 26' & recover 25.7' (98.8%) Sandstone & gravers ation Data Logger Surveys Mud Surface Temp. Micro 2H Depth Inclination Temp Time In Out 2H 0:00:00 26.3 24.8 2H 6:00 400'.0						
22:15	0:00	2.75	6							
				Past 24 hr	s.: Cored 26	' & recover :	25.7 ' (98.8%	5) Sandston	e & gravel	
	Total	24.00	Hours							
Rental Equip	ment		Location	Data	a Logger Sur	veys	Mud Su	rface Temp	o. Micro	
Catco 32 Bed	Camp		DS-2H	Depth	Inclination	Temp	-			
Catco Loader			DS-2H				0:00:00	26.3	24.8	
Catco Pickup	()		DS-2H				6:00			
Peak Light Pla	ints (1)		DS-2H				12:00			
Heater (1)			Hot Ice				18:00			
Mattracks (2)			DS-2H				24:00:00	30.5	25.0	
RT-85 Tractor			DS-2H							
RT-85 w/Wate			DS-2H	Temp.						
RT-85 w/ 3500			Hot Ice							
Peak 50T cra	ne		Hot Ice							
Welding Mach	ine		Hot Ice	SW-4						
Daily Mu	ud Report	Time	of day							
Mud pro	perties @	9:00								
	MW	9.2	9.2	Greencide	5 gal					
	Funnel Visc.	44.0	44.0	Bicarb	1 sx					
	PV	14.0	13.0	KCI	56 sx					
	YP	16.0	15.0							
	F/L	7.0	8.0							
F	Flowline Temp.	31.0	31.0							
	pH	7.0	7.0							
Chloric	des(mg/I)/Ca++	55000/320	53000/280							
	%KCL	11.0	11.0							
	Freeze Point	22.0	22.0							
		Hot Ice		Hot Ice	Lake					
Consumables		Potable	Hot Ice Grey	Fuel	MO167	Equipment				
Previous Balar	nce	4,515	4,361	8,982	64,600		own with co	ntrol		
Received	l	1,992	ship2300		3,000	problems				
Days Usage	l	1,674	1,589	1,320		ļ				
Accumulated		56,550	31,989	109,272	67,600	ļ				
On Hand			3,650	7,662						
				2H 1950						

Comments:

Jim Weimer of Schlumberger Wire line division visited rig site to access lubricator requirements for the completion phase. Chuck Scheve of AOGCC granted verbal approval to continue coring surface hole in lieu of BOP test due 4/6/03.

Date: Rpt. No.	4/6/2003 69			lot Ice Proje y Drilling R			E. Jo		larke [‡]
Operation @	0600:		test BOPs/wo			onfiguratio	n.		
Accidents/In	iurioo	Report period None Reporte	d23 hours/Da	ylight Savi	ngs Change		Current De	oth (0600)	773'
ACCIDENTS/III	Julies.	None Reporte	u				Footage Th		41'
Safety:	Pre-job safety	meetings at th	ne start of eacl	h tour.			J		
							al Well Foota	-	637.5'
							Well Core R		617.7
Environment	tal Incidents:	-	drilling mud o	-			Recovery Pe	ercentage	96.9%
From	То	Hours	ut of pickup ar IADC Code		me Summar				
0:00	0:30	0.50	3	Ream from	n 650' to 724'				
0:30	1:30	1.00	21		tating head el				
1:30			5		nd. mud at 724				ICool
	3:45	2.25			clocks ahead		ght savings o	change.	
3:45	4:00	0.25	3		n 724' to 732'.				
4:00	6:00	2.00	4		732' to 742'				
6:00	7:00	1.00	6		o 595' - Tight		Briefly		
7:00	12:00	5.00	5		Condition/Ch				
12:00	16:00	4.00	3		ge To Bottom	While Cond	itioning Mud		
16:00	18:30	2.50	4		742' to 773'				
18:30			5		d mud. Loosi			ps. Getting	large
	21:00	2.50			f cuttings/form				
21:00	21:30	0.50	3		coming off bo				
21:30	0:00	2.50	21	Trip out of	hole to test B	OPs and rep	pair mud syst	tem.	
					1.00				
					recovered 32			sandstone, s	some
				congl., ss v	w/ tarlike dead	1 011 761-76	<i>[</i>		
Dentel Faulin	Total	24.00	Hours	Det			Mud Cu		Miene
Rental Equip			Location	1	a Logger Sur Inclination	Temp		rface Temp	
Catco 32 Bed Catco Loader			DS-2H DS-2H	Depth	Inclination	remp	Time 0:00:00	In 30.5	Out 25.6
Catco Pickup			DS-2H				6:00	34.0	25.0
Peak Light Pl			DS-2H				12:00	28.4	25.8
Heater (1)			Hot Ice				12:00	31.8	27.1
Mattracks (2)			DS-2H				24:00:00	n/a	n/a
RT-85 Tracto	r Trailer		DS-2H				24.00.00	17/4	n/a
RT-85 w/Wat			DS-2H	Temp.		1			
RT-85 w/ 350			Hot Ice	-15					
Peak 50T cra			Hot Ice	Wind					
Welding Mac			Hot Ice	SE-14					
	-			_	J				
	ud Report	Time	of day	Chemic	als Mixed				
Mud pr	operties @	10:00	23:00	DefoamX	105 gal.				
	MW		9.2	Bicarb.	50 lbs				
	Funnel Visc.	43.0	42.0	_					
	PV	14.0	14.0	4					
	YP	18.0	13.0	4					
	F/L	8.0	7.6	-					
	Flowline Temp.		29.0	4					
	pH		7.0	-					
Chior	ides(mg/l)/Ca++		55000/400	-					
	%KCL Freeze Point	11.0 22.0	11.0 22.0	-					
<u> </u>	FIGEZE POINT	Hot Ice	22.0	Hot Ice	Lake	1			
Consumable	6	Potable	Hot Ico Grov		MO167	Equipment	t Down:		
Previous Bala		4,833	Hot Ice Grey 2,181	Fuel 7,662	76,600		lown with co	atrol	
Received		4,833	2, 18 I ship 2156	3,053	10,000	problems	OWIT WILLT CO		
						problems			
					76 600	ł			
					70,000	ł			
		5,434	5,501			l			
Days Usage Accumulated On Hand		2,067 58,617 3,434	956 32,945 3,381	1,272 110,544 9,443 2H 5500	76,600				

<u>Comments:</u> West Side Tioga Heater Relocated to top of Dynatec Workshop & Operating.

Air Compressor Installation Complete and Operating.

Date: 4/7/2003 Rpt. No. 70

Environmental Incidents:

Hot Ice Project Daily Drilling Report



773'

0

Operation @ 0600:	Testing BOPs

Accidents/Injuries: Electrician cut hand. Sent to KOC Medical for stitches. Returned to work, not an LTA Pre-job safety meetings at the start of each tour. Safety:

None reported

Total Well Footage Cored 637.5 **Total Well Core Recovered** 617.7 96.9% **Core Recovery Percentage**

Current Depth (0600)

Footage This Report

IADC Code Activity Time Summary From То Hours 0:00 21 Clean floor. Wash down BOPs. Vac out cellar box. PU wear 6:00 6.00 bushing retrieving tool. Pull wear bushing. Make up BOP test plug. 6:00 5 Condition mud. Modify mud lines and centrifugal pumps. Warm 13:30 7.50 BOPs to prepare for test. 13:30 15 Test BOPs. Lines freezing. Clear fluids from lines and thaw valves. Test Annular, pipe rams, inner & outer kill and choke line valves 18:00 to 250 psi and 3000 psi. 4.50 18:00 15 Redirect hot air ducts to heat specific parts of BOPs. Lines 23:00 5.00 freezing. Continue making mud system modifications. Clean pits. 23:00 15 Testing choke manifold. Test manifold, vlvs. 4,5,&6 to 250 psi OK. 0:00 1.00 Prep to test to 3000. Total 24.00 Hours **Rental Equipment** Location **Data Logger Surveys** Mud Surface Temp. Micro Depth Catco 32 Bed Camp DS-2H Inclination Temp Time In Out Catco Loader DS-2H 0:00:00 Catco Pickup (1) DS-2H 6:00 Peak Light Plants (1) DS-2H 12:00 Heater (1) Hot Ice 18:00 Mattracks (2) DS-2H 24:00:00 RT-85 Tractor Trailer DS-2H RT-85 w/Water House DS-2H Temp. RT-85 w/ 3500 gal Fuel Hot Ice -18 Peak 50T crane Hot Ice Wind Welding Machine ENE-15 Hot Ice Daily Mud Report Chemicals Mixed Time of day 23:00 Mud properties @ 9:00 MW 9.3 9.2 Funnel Visc. 41.0 39.0 ΡV 13.0 14.0 YP 15.0 13.0 F/L 8.2 8.0 **Flowline Temp** 34.0 50.0 7.0 7.0 pН 54000/400 51000/400 Chlorides(mg/l)/Ca++ 11.0 10.0 %KCL 22.0 **Freeze Point** 22.0 Hot Ice Hot Ice Lake Consumables Potable Hot Ice Grey Fuel MO167 Equipment Down: Previous Balance 3,434 3,381 9,443 76,600 Vaporizer down with control Received 3.614 ship 2156 3.053 3.740 problems Davs Usage 1.278 3.587 2.205 Accumulated 63,724 35,150 111,822 80,340 On Hand 3,434 3,332 8,165 2H 6400

DOE personnel toured platform. Flew to locn via chopper. Comments: Working on mud system changes in trip tank and pit areas to improve on centrifugal pump operation. Clean pits. Rebuild mud system.

Date: Rpt. No.	4/8/2003 71			ot Ice Proje y Drilling R			E. S.		Jarka[‡]
Operation @	0600:	Coring @ 801	ŀ			•			
Accidents/In	juries:	None Reporte	əd				Current De		801'
Cofetu	Due isk sefetu						Footage Th	is Report	0
<u>Safety:</u>	Pre-job safety	meetings at tr	le start of each	i tour.		Tota	al Well Foota	an Corod	637.5'
							Well Core R	-	617.7
Environment	tal Incidents:	1 gallon of m	ud spilled at 2	H-came out	of vent		Recovery Pe		96.9%
	<u></u>	-	atco guzzler ta					je	
From	То	Hours	IADC Code			у			
0:00			21				ind manifold.		
					-		etting on 7" r		-
							oump to get ir		
	0.00	0.00					d, choke valv		to
6:00	6:00	6.00	21				&3 to 250/300	JU, UK.	
6:00			21		Rams, IKV, I(lear Bushing		UTIW, Stand	Ining 250/2	000
1					/anifold, IKV,			ihihe 200/3	000
	12:30	6.50			Lines & Rig				
12:30	17:00	4.50	5	Condition N	•	_ 0.001	-401011011		
17:00	18:00	1.00	6			ole To Shoe	. Ream ice b	elow cellar	to grnd.
18:00	21:30	3.50	5				system to 26		U
21:30	22:00	0.50	6		. Break circ.			0	
22:00	22:15	0.25	5	Circ & cond	d mud at 236	,			
22:15	22:30	0.25	6	RIH to 508	. Break circ.				
22:30	23:15	0.75	5		d mud at 508'				
23:15	24:00:00	0.75	6	Wash and	ream from 70	14' to 724', p	recautionary.		
	Total	24.00	Hours						
Rental Equip			Location DS-2H		Logger Sur	1		rface Temp	
Catco 32 Bed Catco Loader			DS-2H	Depth	inclination	Temp	Time 0:00:00	n/a	Out n/a
Catco Pickup			DS-2H				6:00	n/a	n/a
Peak Light Pl			DS-2H				12:00	n/a	n/a
Heater (1)	()		Hot Ice				18:00	30.0	29.0
Mattracks (2)			DS-2H				24:00:00	28.0	26.0
RD-105 Tract	tor & Trailer		DS-2H						
RT-85 Tracto			DS-2H	Temp.	-				
RT-85 w/Wat			DS-2H	-16					
RT-85 w/ 350	•		Hot Ice	Wind	-				
Peak 50T cra Welding Mac			Hot Ice Hot Ice	calm	J				
	lud Report	Time	of day	Chemic	als Mixed	1			
	operties @	23:00		Greencide		J			
	MW			KCI	95 sx				
	Funnel Visc.			FloPro	140 bbl				
1	PV			1					
1	YP	8.0	<u> </u>]					
1	F/L	8.6							
	Flowline Temp.			1					
	pH			1					
Chlori	ides(mg/l)/Ca++			4					
	%KCL Freeze Point			-					
	FIGEZE POINT	Hot Ice		Hot Ice	Lake	I			
Consumable	S	Potable	Hot Ice Grey	Fuel	MO167	Equipmen	t Down:		
Previous Bala		3,434	3,332	8,165	80,340		down with cor	ntrol	
Received	-	4,547	ship 0	-,	,	problems		-	
Days Usage		6,430	1,666	1,278		ľ			
Accumulated		70,154	36,816		82,576	ļ			
On Hand		1,749	4,998	6,887					
		.,	.,	2H 7300					

<u>Comments:</u> BLM & ADNR visited on separate tours. Received 140 bbls new mud from MI. Shipped 50 bbls old mud back to MI.

Date: Rpt. No.	4/9/2003 72			ot Ice Proje y Drilling Ro			E Solo		
Operation @	0600:	POOH With P	lugged Core B	arrell - Wet	String	•			
Accidents/Inj	uries:	None Reporte	ed				Current De		921
Safatu	Dro job cofoty	montings at th	a atort of anal	a tour			Footage Th	nis Report	140'
<u>Safety:</u>	Pre-job safety	meetings at tr	le start of each	i tour.		Tota	al Well Foota	age Cored	804'
							Well Core F	-	743.6'
Environment	al Incidents:	20 gallon pot	able water spil	I @ Hot Ice	Hose	Core I	Recovery Pe	ercentage	92.5%
			iled. Repaired						
From	То	Hours	IADC Code		me Summar				ation
0:00	1:30	1.50	3	from 773' to	om 724' to 77 772')	2°. (fill last 2	20° top bottor	n)(ID corre	ction
1:30	1.00	1.00	4		n 772' to 801'	. Circ 2X co	oring pmp rat	e for 10 mir	n. after
	6:00	4.50		each core.	Some fill.		••••		
6:00	18:00	12.00	4	Coring fron	n 801' to 872'	, Hard/Firm	Clay.		
10.00	0.00	0.00			07014 0401				
18:00	0:00	6.00	4	Coring fron	n 872' to 912'				
				Cored 140'	; recovered 1	25.9' (89.9%	6)		
				Predomina	tely (67%) mi	udstone with	, 33% sandst	tone. One 3	3' coal
				bed.					
	Total	24.00	Hours						
Rental Equip		2	Location	Data	Logger Sur	veys	Mud Su	rface Temp	o. Micro
Catco 32 Bed			DS-2H	Depth	Inclination	Temp	Time	In .	Out
Catco Loader			DS-2H				0:00:00	28.0	26.0
Catco Pickup			DS-2H				6:00	27.8	25.6
Peak Light Pla	ants (1)		DS-2H				12:00	26.2	25.7
Heater (1) Mattracks (2)			Hot Ice DS-2H				18:00 24:00:00	26.6 29.0	24.8 28.0
RD-105 Tract	or & Trailer		DS-2H				24.00.00	29.0	20.0
RT-85 Tractor			DS-2H	Temp.					
RT-85 w/Wate			DS-2H	-8					
RT-85 w/ 350			Hot Ice	Wind					
Peak 50T cra		<u>_</u>	Hot Ice	calm]				
Welding Mach			Hot Ice		-1- 14' '				
-	ud Report		of day		als Mixed	l			
	operties @ MW	8:00 9.1	22:00 9.1	DefoamX KCI	5 gai 4 sx				
	Funnel Visc.	37.0	37.0	Flo-Vis L	4 5x 15 gal.				
	PV		10.0						
	YP	9.0	11.0	1					
	F/L	10.0	10.2]					
1	Flowline Temp.	28.0	29.0	-					
	pH	7.0	7.0	4					
Chlorie	des(mg/l)/%KCl	52000/10	51000/10	-					
1	%Sand Freeze Point		0.75 22.0	4					
	TTOOLO FUIIL	Hot Ice	22.0	Hot Ice	Lake				
Consumable	s	Potable	Hot Ice Grey	Fuel	MO167	Equipment	t Down:		
Previous Bala		1,749	4,998	6,887			lown with co	ntrol	
Received		4,431	ship 2156	2,946	6,995	problems			
Days Usage		2,810	1,666	1,278		ļ			
Accumulated		72,964	38,482	114,378	89,571	ļ			
On Hand		3,370	2,695	8,662					
•				2H 6500					

Date: 4/10/2003 Rpt. No. 73 Hot Ice Project Daily Drilling Report



1010'

57

Operation @ 0600: Coring @ 1010'

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Total Well Footage Cored	861
Total Well Core Recovered	793.8
Core Recovery Percentage	92.1%

Current Depth (0600)

Footage This Report

Environmental Incidents: None Reported

From	То	Hours	IADC Code						
0:00	1:00	1.00	4		n 912' to 921'.				
1:00	3:00	2.00	5		d mud. Mud g				
3:00			3		ng. Reduced				
	4:30	1.50		Unable to p	oull inner barro	el. Release	d overshot. I	Prep to PO	OH.
4:30	9:30	5.00	6	Continue P	OH - Wet Stri	ing			
9:30	11:00	1.50	21	Clean Rig F	Floor & Cellar	- Install Flo	w Meter To D	Drill Cool	
11:00	12:00	1.00	6	RIH To Sho	be				
12:00	14:30	2.50	5	Circulate &	Chill Mud Fro	om 32° to 28	°F.		
14:30	15:30	1.00	6	RIH To 830)' - Tagged Fil	11			
15:30	17:30	2.00	6		am To Bottor		To Surface L	ag Test Re	sulted In
					25 Calculated				
17:30			6		r Core Barrel.		•		0
	18:30	1.00	-	No recover					
18:30	0:00	5.50	4		n 921' to 969'.				
				Cored 57	recovered 50	.2'. (88.1%)	rececoverv)		
					mudstone, a				
	Total	24.00	Hours						
Rental Equip			Location	Data	Logger Sur	veys	Mud Su	rface Temp	. Micro
Catco 32 Bed			DS-2H	Depth	Inclination	Temp	Time	In	Out
Catco Loader	•		DS-2H	•		•	0:00:00	29.0	28.0
Catco Pickup	(1)		DS-2H				6:00	29.8	pits
Peak Light Pla			DS-2H				12:00	32.0	32.0
Heater (1)	. /		Hot Ice				18:00	27.0	25.0
Mattracks (2)			DS-2H				24:00:00	27.9	25.5
RD-105 Tracto	or & Trailer		DS-2H					-	
RT-85 Tractor			DS-2H	Temp.			I		
RT-85 w/Wate			DS-2H	-15					
RT-85 w/ 3500			Hot Ice	Wind					
Peak 50T cra			Hot Ice	ENE-5					
Welding Mach			Hot Ice	•	1				
	ud Report	Time	of day	Chemic	als Mixed				
	operties @	8:00	23:00	DefoamX					
Mud pro	MW	9.2	9.1	Greencide	-				
	Funnel Visc.	38.0	38.0	KCI	17 sx				
	PV	9.0	9.0	FloVis					
	YP	9.0 10.0	9.0		5 gal				
	F/L	12.0	11.6	-					
	F/∟ Flowline Temp.	27.0	26.0	-					
1	-	7.0	7.0	-					
Chlorid	pH des(mg/I)/Ca++	49000/400	51000/360	-					
Chiorie	wKCL	49000/400 10.0	10.0	-					
	%KCL Freeze Point			-					
	Freeze Point		22.0	Martin 14/4		ا مادم	1		
Conquissobles		Hot Ice		Main Wtr.	Hot Ice	Lake	Equipment	Dourse	
Consumables		Potable	Hot Ice Grey	Storage	Fuel	MO167	Equipment		
Previous Bala	nce	3,370	2,695	5600	8,662	89,571	Vaporizer not	•	olumbing
Received		4,791	ship 2205	3521	4 505	4,209	AQMS System	1	
		1,905	1,715	2881	1,527				
Days Usage		71,000			445 005	00 700			
Days Usage Accumulated On Hand		74,869 2,735	40,197 3,185		115,905 7,135	93,780			

Date: Rpt. No.	4/11/2003 74			ot Ice Proje y Drilling Ro		•	E. C.	Anac	
Operation @	0600:	Coring @ 114	7'			•			
Accidents/Injuries:		None Reporte	d				Current De		1147'
							Footage Th	is Report	144'
<u>Safety:</u>	Pre-job safety	-				Tota		an Corod	4006'
	Pit gain incide (both crews).	nt @ 0600 serv	/ed as dynami	C KIII AFIII			al Well Foota Well Core R	-	1006' 930.3'
Environmen	tal Incidents:	Mud spray on	ice pad @ Ho	t Ico: DrillC			Recovery Pe		930.3 92.5%
LINIOIIIIeii	tai incluents.	head rupture-		t ice, Di iic		Core	Recovery re	licentage	92.5 /0
From	То	Hours	•	Activity Ti	me Summary	,			
0:00	6:00	6.00	4		n 969' to 1010				
6:00			4	Flow Check	k Well - Noted	l 25 Bbl. Ga	in From 4:45	-6:00 - Was	sh
	6:30	0.50			On After Clea	ning Swaco	o Centrifuge		
6:30	7:00	0.50	4	Retrieve Co					
7:00	9:00	2.00	4		1010' To 102	-			
9:00	10:00	1.00	10	-	998' - 3/4 Deg				
10:00	0:00	14.00	4	Core From	1020' To 111	3'.			
				Cared 144's receivered 126 El (04 8% receivers)					
				Cored 144'; recovered 136.5' (94.8% recovery) Predominately mudstone with sandstone, occasional coal streak					reaks
				riedomina	tery muustone	, with Sanus			I Caks
	Total	24.00	11						
		24.00	Hours						
Rental Equip	oment	24.00	Location		Logger Sur			rface Temp	
Catco 32 Bec	oment I Camp	24.00	Location DS-2H	Depth	Inclination	veys Temp	Time	In	Out
Catco 32 Bec Catco Loader	oment I Camp	24.00	Location DS-2H DS-2H				Time 0:00:00	In 27.9	Out 25.5
Catco 32 Bec Catco Loader Catco Pickup	Dement d Camp (1)	24.00	Location DS-2H DS-2H DS-2H	Depth	Inclination		Time 0:00:00 6:00	In 27.9 27.8	Out 25.5 26.0
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl	Dement d Camp (1)		Location DS-2H DS-2H DS-2H DS-2H DS-2H	Depth	Inclination		Time 0:00:00 6:00 12:00	In 27.9 27.8 26.6	Out 25.5 26.0 25.7
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1)	ants (1)		Location DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice	Depth	Inclination		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2)	ants (1)		Location DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H	Depth	Inclination		Time 0:00:00 6:00 12:00	In 27.9 27.8 26.6	Out 25.5 26.0 25.7
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1)	oment I Camp (1) ants (1) tor & Trailer		Location DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H	Depth 998'	Inclination		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tract	oment I Camp (1) ants (1) tor & Trailer r Trailer		Location DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H	Depth	Inclination		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tract RT-85 Tracto	tor & Trailer r Trailer er House		Location DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H	Depth 998' 	Inclination		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra	tor & Trailer r Trailer er House 00 gal Fuel ane		Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H DS-2H	Depth 998' 	Inclination		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac	tor & Trailer r Trailer er House 00 gal Fuel ane hine		Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice	Depth 998' Temp. -10 Wind E-28	Inclination 3/4 deg.		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M	oment d Camp (1) ants (1) tor & Trailer r Trailer er House 00 gal Fuel ane hine lud Report	Time	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Hot Ice	Depth 998' Temp. -10 Wind E-28 Chemic	Inclination 3/4 deg.		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M	oment d Camp (1) ants (1) tor & Trailer r Trailer er House 00 gal Fuel ane hine lud Report operties @		Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Hot Ice Hot Ice Of day 23:00	Depth 998' Temp. -10 Wind E-28 Chemic FloVis	Inclination 3/4 deg. als Mixed 25 lbs		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M	oment 1 Camp (1) ants (1) tor & Trailer r Trailer er House 10 gal Fuel ane hine lud Report operties @ MW	Time 4:00 9.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Hot Ice Of day 23:00 9.2	Depth 998' Temp. -10 Wind E-28 Chemic FloVis DefoamX	Inclination 3/4 deg. 		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M	oment 1 Camp (1) ants (1) tor & Trailer r Trailer er House 10 gal Fuel ane hine lud Report operties @ MW Funnel Visc.	Time 4:00 9.0 38.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Hot Ice Of day 23:00 9.2 38.0	Depth 998' Temp. -10 Wind E-28 FloVis DefoamX KlaGard	Inclination 3/4 deg. 3/4 deg.		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M	oment I Camp (1) ants (1) tor & Trailer er House 00 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV	Time 4:00 9.0 38.0 8.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice of day 23:00 9.2 38.0 9.0	Depth 998' Temp. -10 Wind E-28 FloVis DefoamX KlaGard Greencide	Inclination 3/4 deg. 3/4 deg.		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M	oment I Camp (1) ants (1) tor & Trailer r Trailer er House 10 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV YP	Time 4:00 9.0 38.0 8.0 10.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Of day 23:00 9.2 38.0 9.0 11.0	Depth 998' Temp. -10 Wind E-28 FloVis DefoamX KlaGard Greencide Lecithin	Inclination 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M	oment I Camp (1) ants (1) tor & Trailer r Trailer er House 00 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV YP F/L	Time 4:00 9.0 38.0 8.0 10.0 14.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Of day 23:00 9.2 38.0 9.0 11.0 17.0	Depth 998' Temp. -10 Wind E-28 FloVis DefoamX KlaGard Greencide	Inclination 3/4 deg. 3/4 deg.		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M	oment 1 Camp (1) ants (1) tor & Trailer r Trailer er House 10 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp.	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice f day 23:00 9.2 38.0 9.0 11.0 17.0 26.0	Depth 998' Temp. -10 Wind E-28 FloVis DefoamX KlaGard Greencide Lecithin	Inclination 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M Mud pr	oment 1 Camp (1) ants (1) tor & Trailer r Trailer er House 10 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0 7.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Hot Ice of day 23:00 9.2 38.0 9.0 11.0 17.0 26.0 7.0	Depth 998' Temp. -10 Wind E-28 FloVis DefoamX KlaGard Greencide Lecithin	Inclination 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M Mud pr	oment 1 Camp (1) ants (1) tor & Trailer r Trailer er House 10 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp.	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice f day 23:00 9.2 38.0 9.0 11.0 17.0 26.0	Depth 998' Temp. -10 Wind E-28 FloVis DefoamX KlaGard Greencide Lecithin	Inclination 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M Mud pr	oment d Camp (1) (1) (1) (1) (1) (1) (1) (1)	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0 7.0 48000/400 10.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice of day 23:00 9.2 38.0 9.0 11.0 17.0 26.0 7.0 52000/440	Depth 998' Temp. -10 Wind E-28 FloVis DefoamX KlaGard Greencide Lecithin	Inclination 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M Mud pr	oment d Camp (1) ants (1) tor & Trailer r Trailer er House 0 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0 7.0 48000/400 10.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Hot Ice of day 23:00 9.2 38.0 9.0 11.0 17.0 26.0 7.0 52000/440 10.0	Depth 998' Temp. -10 Wind E-28 FloVis DefoamX KlaGard Greencide Lecithin	Inclination 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal		Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M Mud pr	oment d Camp (1) (1) ants (1) tor & Trailer r Trailer er House 00 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0 7.0 48000/400 10.0 22.0	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Hot Ice of day 23:00 9.2 38.0 9.0 11.0 17.0 26.0 7.0 52000/440 10.0	Depth 998' Temp. -10 Wind E-28 Chemic FloVis DefoamX KlaGard Greencide Lecithin KCl	Inclination 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal 74 sx	Temp	Time 0:00:00 6:00 12:00 18:00	In 27.9 27.8 26.6 26.6 26.1	Out 25.5 26.0 25.7 25.6
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M Mud pr	oment d Camp (1) (1) (1) (1) (1) (1) (1) (1)	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0 7.0 48000/400 10.0 22.0 Hot Ice	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice Hot Ice of day 23:00 9.2 38.0 9.0 11.0 17.0 26.0 7.0 52000/440 10.0 22.0	Depth 998' Temp. -10 Wind E-28 Chemic FloVis DefoamX KlaGard Greencide Lecithin KCl Main Wtr.	Inclination 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal 74 sx Hot Ice Fuel	Temp Lake MO167	Time 0:00:00 6:00 12:00 18:00 24:00:00	In 27.9 27.8 26.6 26.1	Out 25.5 26.0 25.7 25.6 25.8
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 Tracto RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M Mud pr Chlor	oment d Camp (1) (1) (1) (1) (1) (1) (1) (1)	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0 7.0 48000/400 10.0 22.0 Hot Ice Potable 2,735 4,621	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice of day 23:00 9.2 38.0 9.0 11.0 17.0 26.0 7.0 52000/440 10.0 22.0 Hot Ice Grey	Depth 998' Temp. -10 Wind E-28 Chemic FloVis DefoamX KlaGard Greencide Lecithin KCl Main Wtr. Storage 6240 4207	Inclination 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal 74 sx Hot Ice Fuel 7,135 2,840	Temp Lake MO167	Time 0:00:00 6:00 12:00 18:00 24:00:00	In 27.9 27.8 26.6 26.1 26.1 an HEX-ruptu	Out 25.5 26.0 25.7 25.6 25.8
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 m/Wat RT-85 m/Wat RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M Mud pr Chlor Previous Bala Received Daily Usage	oment d Camp (1) ants (1) tor & Trailer r Trailer er House 0 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point es ance	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0 7.0 48000/400 10.0 22.0 Hot Ice Potable 2,735 4,621 3,103	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice 400 100 11.0 17.0 26.0 7.0 52000/440 10.0 22.0 Hot Ice Grey 3,185 ship 2352 2,793	Depth 998' Temp. -10 Wind E-28 Chemic FloVis DefoamX KlaGard Greencide Lecithin KCl Main Wtr. Storage 6240 4207 2607	Inclination 3/4 deg. 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal 74 sx Hot Ice Fuel 7,135 2,840 1,739	Temp Lake M0167 93,780 5,100	Time 0:00:00 6:00 12:00 18:00 24:00:00	In 27.9 27.8 26.6 26.1 26.1 an HEX-ruptu	Out 25.5 26.0 25.7 25.6 25.8
Catco 32 Bec Catco Loader Catco Pickup Peak Light Pl Heater (1) Mattracks (2) RD-105 Tracto RT-85 m/Wat RT-85 m/Wat RT-85 w/Wat RT-85 w/ 350 Peak 50T cra Welding Mac Daily M Mud pr Chlor Previous Bala Received	oment d Camp (1) ants (1) tor & Trailer r Trailer er House 0 gal Fuel ane hine lud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point es ance	Time 4:00 9.0 38.0 8.0 10.0 14.0 25.0 7.0 48000/400 10.0 22.0 Hot Ice Potable 2,735 4,621	Location DS-2H DS-2H DS-2H DS-2H Hot Ice DS-2H DS-2H DS-2H DS-2H Hot Ice Hot Ice Hot Ice 400 100 11.0 17.0 26.0 7.0 52000/440 10.0 22.0 Hot Ice Grey 3,185 ship 2352	Depth 998' Temp. -10 Wind E-28 Chemic FloVis DefoamX KlaGard Greencide Lecithin KCl Main Wtr. Storage 6240 4207	Inclination 3/4 deg. 3/4 deg. 3/4 deg. als Mixed 25 lbs 40 gal 5 gal 5 gal 55 gal 74 sx Hot Ice Fuel 7,135 2,840 1,739 117,644	Temp Lake MO167 93,780	Time 0:00:00 6:00 12:00 18:00 24:00:00	In 27.9 27.8 26.6 26.1 26.1 an HEX-ruptu	Out 25.5 26.0 25.7 25.6 25.8

Date: 4/12/2003 Rpt. No. 75 Hot Ice Project Daily Drilling Report



1354'

Operation @ 0600: Coring @ 1354'

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.



Current Depth (0600)

Environmental Incidents: None Reported

From	То	Hours	IADC Code	Activity Tir	me Summary	,			
0:00	6:00	6.00	4	Coring from 1113' to 1147'					
6:00 18:00 12.00			4	Core From 1147' To 1240'					
18:00 0:00 6.00		4	Core from 1240' to 1295'.						
10.00 0.00		0100							
				Cored 182'	recovered 10	69.1'. (92.9	% recovery)		
				50/50 alterr	nating mudsto	ne & sands	tone		
	Total	24.00	Hours				-		
Rental Equipme			Location		Logger Surv	veys		rface Temp	
Catco 32 Bed Ca	amp		DS-2H	Depth	Inclination	Temp	Time	In	Out
Catco Loader			DS-2H				0:00:00	26.1	25.8
Catco Pickup (1)			DS-2H				6:00	25.6	25.4
Peak Light Plants	s (1)		DS-2H				12:00	25.3	25.4
Heater (1)			Hot Ice				18:00	25.8	25.6
Mattracks (2)			DS-2H				24:00:00	25.4	25.7
RD-105 Tractor &			DS-2H						
RT-85 Tractor Tr			DS-2H	Temp.					
RT-85 w/Water H			DS-2H	4					
RT-85 w/ 3500 g			Hot Ice	Wind					
Peak 50T crane			Hot Ice	ESE-20					
Welding Machine			Hot Ice	<u>.</u>					
Daily Mud			of day		als Mixed				
Mud prope		9:00	22:30	Soda Ash					
	MW Europe View	9.2	9.2	KCI	57 sx				
	Funnel Visc. PV	38.0	38.0	FloVis	40 gal.				
	YP	10.0	9.0 12.0	_					
	F/L	<u>10.0</u> 20.0	12.0	-					
		26.0	26.0	-					
FIU	Flowline Temp.		7.0	-					
pH Chlorides(mg/l)/Ca++ 5/		7.5 52000/480	51000/480	_					
Chiondes			10.0	-					
.	Freeze Point	10.0 23.5	22.0	-					
	106261 0111	Hot Ice	22.0	Main Wtr.	Hot Ice	Lake	1		
Consumables		Potable	Hot Ice Grey		Fuel	MO167	Equipment	Down:	
Previous Balance		1,590	2,744	7840	8,236	98,880	DrillCool FinF		red head
Received	-	5,470	vap. 1219	3244		4,800	AQMS System	•	
Daily Usage		2,226	2,003			.,			
Cumulative Usag	ge (est.)	80,198	44,993			103,680	1		
On Hand	/	4,834	3,528			,	1		
Officiald		.,	-,•		2H 3450		-		

<u>Comments:</u> Phase 2 conditions MicroMotion tech onsite

Date: Rpt. No.	4/13/2003 76	I	Hot Ice Project Daily Drilling Report		larke¹
Operation @	<u>0600:</u>	Picking up Hole-openin	ng BHA		
Accidents/Ir	njuries:	None Reported		Current Depth (0600)	1400'
				Footage This Report	105'
Safety:	Pre-job safety	meetings at the start of	feach tour.		
	"Man Down"	drill11 minutes from stre	retcher to heliport	Total Well Footage Cored	1293'
				Total Well Core Recovered	1198.1
Environmental Incidents: None Reported				Core Recovery Percentage	92.7%
From	То	Hours IADC Co	ode Activity Time Summ	ary	

From	10	Hours	IADC Code	ACTIVITY III	me Summary				
0:00	11:00	11.00	4	Coring from	n 1295' to 140	0'. Determ	ined 7" casin	ig point @ 1	400'
11:00 12:30 1.50			5	Circ & cond mud					
12:30 16:00 3.50		6	Trip out.						
16:00			21	Pull wear bushing. Rig up floor to pull 7" scab liner. Pull and lay					
	21:00	5.00		down scab	liner. Cut we	ld at each je	oint.		
21:00	22:30	1.50	22		and cellar are				
22:30	0:00	1.50	23	Remove flo	wline microm	otion unit.	Disconnect v	viring. Rem	iove
				conponents	s. Re-sheavir	ng Swaco cl	harge pumps	i.	
				Cored 105'; recovered 98.7' (94%)					
				sandstone (very unconsolidated), last 42' was mudstone					
	Total	24.00	Hours						
Rental Equipme			Location	Data Logger Sur		veys	Mud Su	rface Temp	o. Micro
Catco 32 Bed Ca	amp		DS-2H	Depth	Inclination	Temp	Time	In	Out
Catco Loader			DS-2H				0:00:00	25.4	25.7
Catco Pickup (1)			DS-2H				6:00	27.4	26.4
Peak Light Plant	ts (1)		DS-2H				12:00	27.5	27.6
Heater (1)			Hot Ice				18:00	n/a	n/a
Mattracks (2)			DS-2H				24:00:00	n/a	n/a
RD-105 Tractor	& Trailer		DS-2H						
RT-85 Tractor T	railer		DS-2H	Temp.					
RT-85 w/Water I	House		DS-2H	24					
RT-85 w/ 3500 g	gal Fuel		Hot Ice	Wind					
Peak 50T crane	e		Hot Ice	calm					
Welding Machine	е		Hot Ice		-				
Daily Mud	Report	Time	of day	Chemic	als Mixed				
Mud prope	erties @	6:00	23:00	FloVis	1 sx				
	MW	9.3	9.2	DefoamX	50 gal				
	Funnel Visc.	38.0	38.0	Greencide	5 gal				
	PV	11.0	10.0	KCI	65 sx				
	YP	11.0	13.0						
	F/L	20.0	20.0						
Flowline Temp.		26.0	40.0						
	pH	7.0	7.0]					
Chlorides(mg/l)/Ca++		51000/640	50000/600]					
%KCL		10.0	10.0]					
	Freeze Point	22.0	22.0				_		
		Hot Ice		Main Wtr.	Hot Ice	Lake]		
		Potable	Hot Ice Grey	Storage	Fuel	MO167	Equipment	Down:	
Previous Balance		4,834	3,528	5956	9,940	103,680	DrillCool FinF	an HEX-ruptu	red head
Previous Balanc			vap/shp 2958			5,100	AQMS System	•	
Previous Balanc Received		4,429							
Received					1.633		MatTrack unit	-radiator hose	e
	ge (est.)	4,429 2,470 82,668	2,223	1977	1,633 119,826	108,780	MatTrack unit	-radiator hose	9
Received Daily Usage	ge (est.)	2,470		1977 42087	119,826	108,780	MatTrack unit	-radiator hose	e

Date: Rpt. No.	4/14/2003 77			ot Ice Proje y Drilling R			E. Soc	Ana	
Operation @	0600:	Completing 1	2 stand Short	Trip. Wash	ing to bottor	n.			
Accidents/In	juries:	None Reporte	əd				Current De		1400'
Sofoty	Bro job cofoty	montings at th	a start of anal	h tour			Footage Th	nis Report	
<u>Safety:</u>	Pre-job safety	meetings at ti	le Start Of each	i tour.		Tota	al Well Foota	age Cored	1293'
							Well Core F	-	1198.1'
Environment	al Incidents:	•	ng mud @ Hot				Recovery Pe	ercentage	92.7%
Erom	То	-	veen buckets.			•			
From 0:00	То	Hours	IADC Code		me Summary icroMotion flo		innle un flow	line snool	Ria
0.00	3:30	3.50		up beavers		willeter. IN		ine spool.	i tig
3:30	6:00	2.50		•	lars and mud	motor in pip	be shed. Pic	k up long w	are
				bushing an					
6:00	9:00	3.00	6		Wear Bushing				t Breaker
9:00	11:30	2.50	6		HA - Bit, Mtr,			04.37'	
11:30	18:00	6.50	3		To 8.5" From				
18:00	0:00	6.00	3		from 1087' to			•	
					ears to have			Requires se	everal
				reaming ru	ns per connec	ction to clea	r noie.		
				BHA · 8 1/2	" bit; Daily DN	1100 mud m	notor [,] float si	ıh [.] 4 - 6 1/2	" DC:
					to 134 drill pip				20,
				010000101			longan. rome		
	Total	24.00	Hours						
Rental Equip			Location	Data	a Logger Sur	veys	Mud Su	rface Tem	o. Micro
Catco 32 Bed			DS-2H	Depth	Inclination	Temp	Time	In .	Out
Catco Loader			DS-2H	•		•	0:00:00	static	n/a
Catco Pickup	(1)		DS-2H				6:00	static	n/a
Peak Light Pl	ants (1)		DS-2H				12:00	30.9	n/a
Heater (1)			Hot Ice				18:00	30.8	n/a
Mattracks (2)			DS-2H				24:00:00	30.9	n/a
RD-105 Tract			DS-2H						
RT-85 Tracto			DS-2H	Temp.	4				
RT-85 w/Wate			DS-2H	18	-				
RT-85 w/ 350			Hot Ice	Wind					
Peak 50T cra			Hot Ice	SSE-20]				
Welding Mach	ud Report	Time	Hot Ice of day	Chomic	als Mixed				
-	operties @	7:00	22:30	DeFoamX					
	MW		9.4	KCI	220 gai 67 sx				
	Funnel Visc.		39.0	FloVis	30 gal				
	PV		11.0	1 10 1 13	oo gar				
	YP	13.0	15.0	1					
	 F/L	19.0	18.0						
	Flowline Temp.		29.0	1					
	pH		7.0	1					
Chlori	des(mg/I)/Ca++		49000/660]					
	%KCL	10.0	10.0						
	Freeze Point		23.0		1		-		
		Hot Ice		Main Wtr.	Hot Ice	Lake			
Consumable		Potable	Hot Ice Grey	Storage	Fuel	MO167	Equipment		
Previous Bala	ance	3,116	2,793	7656			DrillCool FinF		red head
Received		5,405	vap/shp 2852		,	4,200	AQMS System	ı	
Daily Usage	,	1,390	1,250	3482	,				
Cumulative U	sage (est.)	84,058	48,466	45569		112,980	-		
On Hand		3,084	2,695	9216	,		l		
Comments					2H 7550				

Date: 4/15/2003 **Hot Ice Project** Anadar Rpt. No. 78 **Daily Drilling Report** Operation @ 0600: Logging with SOS sonic log. Accidents/Injuries: **None Reported** Current Depth (0600) 1403 Footage This Report 3 Safety: Pre-job safety meetings at the start of each tour. **Total Well Footage Cored** 1293' Total Well Core Recovered 1198.1' **Environmental Incidents:** None Reported **Core Recovery Percentage** 92.7%

From	То	Hours	IADC Code	Activity Tir	ne Summary	/					
0:00	2:45	2.75	3		from 1270' to			•	g to 1335'.		
2:45	3:00	0.25	2	Drill to 1403	3'. Additional	3' of hole for	or 7" casing r	athole.			
3:00	3:30	0.50	5	Circ & cond	mud.						
3:30			6	POH> Shor	t trip 12 stand	ds (to 923').	Had to pum	ip first 4 sta	nds out.		
	5:00	1.50		Tight hole.							
5:00			6	RIH 10 star	nds. Wash la	st 4 joints to	bottom. Fill	and tight			
	6:00	1.00		on the last t	wo joints.						
6:00	8:30	2.50		Circulate &	Condition - P	umped 25 E	Bbl. Sweep				
8:30	14:00	5.50		POH - Pum	p & Backrear	n From 140	3 - 1240				
14:00	15:00	1.00		Clean floor	and remove	slip system.					
15:00	16:30	1.50		Rig Up Wire	e Line Loggin	g Tools					
16:30	18:30	2.00			nberger logs:		rom 1357' to	107' KB.			
18:30	0:00	5.50			n logging tool				work		
				past shoe.			0	, . ,			
					bit; Daily DN	1100 mud m	notor: float su	ıb: 4 - 6 1/2	' DC:		
					o 134 drill pip				,		
	Total	24.00	Hours								
Rental Equipn			Location		Logger Sur			rface Temp			
Catco 32 Bed (Camp		DS-2H	Depth	Inclination	Temp	Time	In	Out		
Catco Loader	0		DS-2H				0:00:00	30.9	n/a		
Catco Pickup (DS-2H				6:00	static	n/a		
Peak Light Pla	nts (1)		DS-2H				12:00 static n/a				
Heater (1)			Hot Ice				18:00	static	n/a		
Mattracks (2)			DS-2H				24:00:00 static n/a				
RD-105 Tracto			DS-2H	_							
RT-85 Tractor			DS-2H	Temp.							
RT-85 w/Water			DS-2H	18							
RT-85 w/ 3500			Hot Ice	Wind							
Peak 50T crar			Hot Ice	SW-7							
Welding Machi			Hot Ice	<u>.</u>		1					
	d Report		of day	Chemica	als Mixed						
Mud pro	perties @	8:00	23:00		~-						
	MW	9.5	9.2	KCI	25 sx						
	Funnel Visc.	44.0	43.0	_							
	PV	12.0	9.0								
	YP	18.0	15.0	_							
_	F/L	15.0	18.0								
F	lowline Temp.	29.0	40.0								
	рН	7.0	7.0								
Chlorid	es(mg/l)/Ca++	55000/640	51000/660								
	%KCL	10.5	10.0	4							
	Freeze Point		23.0				1				
.		Hot Ice		Main Wtr.	Hot Ice	Lake	L	_			
Consumables		Potable	Hot Ice Grey	_	Fuel	MO167	Equipment				
Previous Balar	ice	3,084	2,695	9216	10,011	112,980	DrillCool FinF	•	red head		
Received		3,392	vap/shp 2900			2,600	AQMS System				
Daily Usage		1,195	1,075		1,597		Drill Cool Plat	e Exchanger			
Cumulative Us	age (est.)	85,253	49,541		122,914	115,580	4				
On Hand		4,643	1,764	8082	0 / 1 /						
		7,070	1,704		8,414 2H 6400		J				

<u>Comments:</u> Lost stand-off blade on PEX logging tool while pulling past bottom of conductor. Sonic log went to TD of 1345'.

Date: Rpt. No.	4/16/2003 79			ot Ice Proje y Drilling Re			E		larkp^å
Operation @	<u>0600:</u>	Pressure test	ing DrillCool e	xchanger					
Accidents/In	juries:	None Reporte	ed				Current De		1403
							Footage Th	nis Report	0
Safety:	Pre-job safety	meetings at th	ne start of each	n tour.		Tota		ana Carad	1293'
							al Well Foota Well Core R	-	1293
Environment	tal Incidents:	150 gal pot w	ater spill on de	eck-all in bu	icket 17		Recovery Pe		92.7%
	<u></u>	• •	spill from Schl						02.1.70
From	То	Hours	IADC Code	Activity Tir	me Summary	· ·			
0:00			11		chlumberger v				
	7:00	7.00			conductor cas				
7:00	7:00	7.00			eflon composi og from 1340				
7.00					s had to overla				
	I				/IR tool hangi				
	18:00	11.00			Rig down SO				-
18:00	22:00	4.00			Il Cool persor		e from Deadh	norse to rep	air Drill
				Cool units.					
22:00	0:00	2.00		Drill Cool pe	ersonnel repa	iring Drill C	ool units.		
	Total	24.00	Hours						
Rental Equip		1	Location		Logger Sur			rface Temp	
Catco 32 Bed			DS-2H	Depth	Inclination	Temp	Time	In	Out
Catco Loader Catco Pickup			DS-2H DS-2H				0:00:00 6:00	static static	n/a n/a
Peak Light Pl			DS-2H DS-2H				12:00	static	n/a n/a
Heater (1)			Hot Ice				12:00	static	n/a
Mattracks (2)	1	1	DS-2H				24:00:00	static	n/a
RD-105 Tract	tor & Trailer		DS-2H						
RT-85 Tracto			DS-2H	Temp.					
RT-85 w/Wat			DS-2H	14					
RT-85 w/ 350		ļ	Hot Ice	Wind					
Peak 50T cra			Hot Ice	E-2					
Welding Mac	hine Iud Report	Time	Hot Ice	Chamic	als Mixed				
	operties @	9:00	of day 22:30	DEFOAMX					
iviuu pr	MW		<u> </u>	GR-CIDE	0 1				
	Funnel Visc.	38.0	37.0		I				
	PV		6.0	1					
	YP		13.0	1					
	F/L	NC	20.0	1					
	Flowline Temp.	60.0	on bank]					
	pH		7.0						
		59000/680	53000/640	4					
Chlori	ides(mg/I)/Ca++		10.0						
Chlori	%KCL								
Chlori		21.9	23.0			Late	1		
	%KCL Freeze Point	21.9 Hot Ice	23.0	Main Wtr.	Hot Ice	Lake	Equipment	Down	
Consumable	%KCL Freeze Point	21.9 Hot Ice Potable	23.0 Hot Ice Grey	Storage	Fuel	MO167	Equipment		rod bood
Consumable Previous Bala	%KCL Freeze Point	21.9 Hot Ice Potable 4,643	23.0 Hot Ice Grey 1,764	Storage 8,082	Fuel 8,141	MO167 115,580	DrillCool FinF	an HEX-ruptu	red head
Consumable Previous Bala Received	%KCL Freeze Point	21.9 Hot Ice Potable 4,643 3,392	23.0 Hot Ice Grey 1,764 vap/shp 3252	Storage 8,082 4,545	Fuel 8,141	MO167 115,580	DrillCool FinF AQMS System	an HEX-ruptu 1	red head
Consumable Previous Bala Received Daily Usage	%KCL Freeze Point es ance	21.9 Hot Ice Potable 4,643 3,392 1,764	23.0 Hot Ice Grey 1,764 vap/shp 3252 1,588	Storage 8,082 4,545 1,213	Fuel 8,141 1,360	MO167 115,580 5,769	DrillCool FinF	an HEX-ruptu 1	red head
Consumable Previous Bala Received	%KCL Freeze Point es ance	21.9 Hot Ice Potable 4,643 3,392	23.0 Hot Ice Grey 1,764 vap/shp 3252	Storage 8,082 4,545	Fuel 8,141 1,360 122,677	MO167 115,580	DrillCool FinF AQMS System	an HEX-ruptu 1	red head

<u>Comments:</u> DrillCool Plate&Frame exchanger being repaired. Critical plates deformed but repaired. Had to reuse gaskets. Air testing to 20 psi at 0515. Appears to be holding. Pit temp currently 68 deg.

4/17/2003 Date: **Hot Ice Project** Anadar Rpt. No. 80 **Daily Drilling Report** Operation @ 0600: POOH to run 7" csg. Accidents/Injuries: **None Reported** Current Depth (0600) 1403 Footage This Report 0 Safety: Pre-job safety meetings at the start of each tour. **Total Well Footage Cored** 1293' 1198.1' Total Well Core Recovered **Environmental Incidents:** None Reported **Core Recovery Percentage** 92.7%

From	То	Hours	IADC Code	Activity Tir	me Summary	,			
0:00					Cool plate & f				
					. Reuse gask	ets. Consi	derable sand	and mud s	olids
	5:00	5.00		in the excha					
5:00	7:00	2.00			est Plate & Fra		•	o 20 psi. O	к
7:00	12:30	5.50			d below 32 de				
12:30	15:00	2.50			ud motor and				
15:00	18:00	3.00			ream to 1260'				
18:00					l pump on trip	•			
					late through o				
					tom,Swaco p				
	0:00	6.00		loading up	with sand. Ch	ange out so	reens. Ream	ning @ 134	0'.
	Total	24.00	Hours						
Rental Equip	ment		Location	Data	Logger Surv	veys	Mud Su	rface Temp	o. Micro
Catco 32 Bed	Camp		DS-2H	Depth	Inclination	Temp	Time	In	Out
Catco Loader			DS-2H				0:00:00	static	n/a
Catco Pickup			DS-2H				6:00	static	n/a
Peak Light Pla	ants (1)		DS-2H				12:00 34 pit		
Heater (1)			Hot Ice				18:00	27.0	n/a
Mattracks (2)			DS-2H				24:00:00 27.5 n		
RD-105 Tracto			DS-2H						
RT-85 Tractor			DS-2H	Temp.					
RT-85 w/Wate			DS-2H	14					
RT-85 w/ 3500	•		Hot Ice	Wind					
Peak 50T cra			Hot Ice	SE-2					
Welding Mach			Hot Ice						
Daily M	ud Report	Time	of day		als Mixed				
Mud pro	operties @	9:00	23:00	DEFOAMX					
	MW	9.2	9.1	GR-CIDE	2				
	Funnel Visc.	35.0	39.0	FLO VIS L	1				
	PV	5.0	10.0	_					
	YP	12.0	16.0	_					
	F/L	NC	NC	_					
	Flowline Temp.	75 pits	27.0	1					
	pH	7.0	7.0	_					
Chlori	des(mg/l)/Ca++	58000/680	54000/640	4					
	%KCL	11.4	10.0	4					
	Freeze Point	22.0	22.0				1		
		Hot Ice		Main Wtr.	Hot Ice	Lake	L	_	
Consumables	-	Potable	Hot Ice Grey	Storage	Fuel	MO167	Equipment		
Previous Bala	ince	2,035	196	11,414	6,781		AQMS System		
			vap/shp 744	1,848	3,586	4,860			
Received		4,071		,	,				
Received Daily Usage		2,223	2,001	1,918	1,243	100.555			
Received	sage (est.)			,	,	126,209			

<u>Comments:</u> Considerable amount of cuttings/sloughing in hole. Lisa Woolam w/ G. V. Jones did sanitary survey on water treatment system.

Date: Rpt. No.	4/19/2003 82	Hot Ice Project Daily Drilling Report Corrected	Anadarka
Operation @	0600:	Prep to set 7" emergency csg hanger	
Accidents/In	juries:	None Reported	Current Depth (0600) 1403 Footage This Report 0
Safety:	Pre-job safety	y meetings at the start of each tour.	
			Total Well Footage Cored 1293'
			Total Well Core Recovered 1198.1'
<u>Environmen</u>	tal Incidents:	None Reported	Core Recovery Percentage 92.7%

From	То	Hours	IADC Code	Activity Ti	me Summary	,			
0:00	8:00	8.00			. Casing stop				
8:00				Attempt to	circulate. Hole	e packing o	ff, reduce flow	w rate and v	work
				casing until	full circulation	n restored.	PJSM irculate	e while riggi	ng up to
	13:00	5.00		cement					
13:00					ls wtr. Test lin				
				push space	er. Drop btm p	lug. Pump	92 bbl. lead s	slurry, 11 pp	bg
				CemCRET	E. Pump tail s	lurry, 80 bb	ols 12 ppg Ho	t Ice Speci	al blend.
				Drop top pl	ug. Displace v	with 5 bbl w	tr followed by	y 46.4 bbl. 9	Э.3 ppg
					CL brine @ 4				
					job. Reciproc				
					floats- held O			st 40 bbls.	of
	15:00	2.00			ent. CIP @ 14				
15:00	18:00	3.00			Schlumberger			ud for disp	osal.
18:00	0:00	6.00		Clean rig floor and cellar-wait on cement					
	Total	24.00	Hours						
Rental Equipr	nent		Location	Data	a Logger Surv	veys	Mud Su	rface Tem	p. Micro
Catco 32 Bed	Camp		DS-2H	Depth	Inclination	Temp	Time	In	Out
Catco Loader			DS-2H				24:00:00	26.0	26.0
Catco Pickup (DS-2H						
Peak Light Pla	nts (1)		DS-2H						
Heater (1)			Hot Ice						
Mattracks (2)			DS-2H						
RD-105 Tracto			DS-2H						
RT-85 Tractor			DS-2H	Temp.					
RT-85 w/Wate			DS-2H	6 Wind					
RT-85 w/ 3500 Peak 50T crar			Hot Ice Hot Ice	SE-6	-				
Welding Machi			Hot Ice	3E-0	J				
	id Report	Timo	of day	Chemic	als Mixed				
-	perties @	9:00	20:00	Chemic					
	MW	9.00 9.2	<u> </u>	Sodium-bi	11				
	Funnel Visc.	41.0	39.0	DEFOMX	6				
	Pullier visc. PV	12.0	12.0	SAPP	28				
	YP	17.0	18.0		20				
	F/L	NC	NC	-					
F	Flowline Temp.	26.0	woc	-					
•	pH	7.0	8.0	1					
Chloric	les(mg/l)/Ca++	56000/720	56000/960						
				1					
		22.4		1					
		Hot Ice		Main Wtr.	Hot Ice	Lake	1		
Consumables	j	Potable	Hot Ice Grey	Storage	Fuel	MO167	Equipment	Down:	
Previous Balar	nce	4,675	3,038	10,494		128,509	AQMS System	n	
Received		3,376		1,525		4,075	DrillCool HEX		
Daily Usage		1,851	1,666	6,773	1,739				
Cumulative Us	age (est.)	89,896	53,721			132,584			
On Hand		4,007	4,704	5,246			l		
Previous Balar Received Daily Usage Cumulative Us	nce	Hot Ice Potable 4,675 3,376 1,851	3,038 1,666 53,721	Storage 10,494 1,525 6,773 55,473	Fuel 8,591 1,739 125,659	MO167 128,509 4,075	AQMS System	1	

<u>Comments:</u> Mobilizing 150-ton crane to Hot Ice today Rigging down lab/Xray

Date: 4/20/2003 **Hot Ice Project** Anadar Rpt. No. 83 **Daily Drilling Report** Operation @ 0600: **Suspension Operations** Accidents/Injuries: **None Reported** Current Depth (0600) 1403 Footage This Report 0 Safety: Pre-job safety meetings at the start of each tour. **Total Well Footage Cored** 1293' 1198.1' **Total Well Core Recovered Environmental Incidents:** None Reported **Core Recovery Percentage** 92.7%

0:00 3:00 3:00 3:00 3:00 3:00 0:00 3:00 0:00 3:00 0:00 3:00 0:00 3:00 0:00	
6:00 10:00 4.00 10:00 4.00 sip area. Install slips. 10:00 12:00 2.00 12:00 2.00 Run 7" spar. Engage stub. Pull tension and set slips. Dress stub. Attempt to run casing packoff. Would not go. Redress stub. Modify junk ring on packoff assembly. Run packoff and tight lockdown screws. Set down BOP and Hammer up bolts. Test packoff to s250 psi. for ten minutes-OK 21:00 0:00 3.00 Total 24.00 Hours Mud Surface Temp. Microcolspan="2">Mud Surface Temp. Microcolspan="2">Mud Surface Temp. Microcolspan="2">Catco 32 Bed Camp Ds-2H Catco Dickup (1) Ds-2H Peak Light Plants (1) Hot Ice Matters (2) Matters (2) DS-2H Ice Mud Surface Temp. Microcolspan="2">Microcolspan="2">Ice Total 24.00 Hot Inclination Temp Time In O Catco 32 Bed Camp Ds-2H Ice Ice Ice ice ice ice Ice ice ice ice </td	
10:004.0010:0012:0010:0012:0012:002.0012:002.0012:002.0012:002.0012:002.0012:002.0012:009.0021:009.0021:009.0021:000:003.003.00Total 24.00 HoursRental EquipmentLocationData Logger SurveysMud Surface Temp. MictCatco 32 Bed CampDS-2HDetk Light Plants (1)DS-2HPeak Light Plants (1)DS-2HPeak Light Plants (2)DS-2HMattracks (2)DS-2HRental EquipmentLocationData Logger SurveysMud Surface Temp. MictCatco 70 k TrailerDS-2HPeak Light Plants (1)DS-2HHeater (1)Hot IceMattracks (2)DS-2HRb-105 Tractor & TrailerDS-2HRt-85 Tractor TrailerDS-2HTemp.	
10:0010:004.0010:0012:002.0012:0012:002.0012:0021:009.0021:009.0021:000:003.003.00Total 24.00 HoursRental EquipmentLocationData Logger SurveysMud Surface Temp. MictCatco 32 Bed CampDS-2HDepth InclinationTemp Time InOCatco Pickup (1)DS-2HDepth InclinationTemp Time InOS-2HDepth Inclination Temp Time InOCatco Pickup (1)DS-2HDepth Inclination Temp Time InOOS-2HDepth Inclination Temp Time InOOS-2HDepth Inclination Temp Time InOOS-2HDepth Inclination Temp Time InOOS-2HDepth Inclination Temp Time InOOS-2HDS-2HIIIDepth Inclination Temp Time InOO <td co<="" td=""></td>	
10:00 12:00 2.00 Run 7" spear. Engage stub. Pull tension and set slips. 12:00 21:00 9.00 Dess stub. Attempt to run casing packoff. Would not go. Redress stub. Modify junk ring on packoff assembly. Run packoff and tight lockdown screws. Set down BOP and Hammer up bolts. Test packoff to 3250 psi. for ten minutes-OK 21:00 0:00 3.00 Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micr Catco 32 Bed Camp DS-2H Depth Inclination Temp Time In O Catco Pickup (1) DS-2H Depth Inclination Temp Im O Peak Light Plants (1) DS-2H District District Im Im Im Mattracks (2) DS-2H District District Im	
12:00 21:00 9.00 Dress stub. Attempt to run casing packoff. Would not go. Redress stub. Modify junk ring on packoff assembly. Run packoff and tight lockdown screws. Set down BOP and Hammer up bolts. Test packoff to 3250 psi. for ten minutes-OK 21:00 0:00 3.00 Wight in the set of the s	
21:009.00stub. Modify junk ring on packoff assembly. Run packoff and tight lockdown screws. Set down BOP and Hammer up bolts. Test packoff to 3250 psi. for ten minutes-OK Nipple up rotating head. Clean cement from flow line and nipple up Test csg to 500 psi for five minutes-OK.21:000:003.00HoursRental EquipmentLocationData Logger SurveysMud Surface Temp. Mich Catco 32 Bed CampCatco 32 Bed CampDS-2HDepthInclinationTempTimeInOCatco LoaderDS-2HDepthInclinationTempTimeInOCatco Pickup (1)DS-2HDepthInclinationTempTimeInOHeater (1)Hot IceInclinationTempInInMattracks (2)DS-2HInInInInRD-105 Tractor & TrailerDS-2HInInInRT-85 Tractor TrailerDS-2HInInIn	
21:009.009.00Iockdown screws. Set down BOP and Hammer up bolts. Test packoff to 3250 psi. for ten minutes-OK Nipple up rotating head. Clean cement from flow line and nipple up Test csg to 500 psi for five minutes-OK.Total24.00HoursRental EquipmentLocationData Logger SurveysMud Surface Temp. Micro Catco 32 Bed CampCatco 32 Bed CampDS-2HDepthInclinationTempTimeInOrCatco 10 Catco LoaderDS-2HDepthInclinationTempTimeInOrCatco Pickup (1)DS-2HDepthInclinationTempTimeInOrPeak Light Plants (1)DS-2HDepthInclinationTempTimeInOrMattracks (2)DS-2HDepthInclinationTempTimeInOrRT-85 Tractor TrailerDS-2HDepthInclinationTemp.InIn	
21:00 9.00 packoff to 3250 psi. for ten minutes-OK 0:00 3.00 State Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Mich Catco 32 Bed Camp DS-2H DS-2H Depth Inclination Temp Catco Pickup (1) DS-2H Peak Light Plants (1) DS-2H Heater (1) Hot Ice Mattracks (2) DS-2H RD-105 Tractor & Trailer DS-2H RT-85 Tractor Trailer DS-2H	
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Catco Pickup (1) DS-2H Image: Constraint of the system Image:	
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Heater (1) Hot Ice Mattracks (2) DS-2H RD-105 Tractor & Trailer DS-2H RT-85 Tractor Trailer DS-2H	
Mattracks (2) DS-2H Image: Constraint of the second secon	
RD-105 Tractor & Trailer DS-2H RT-85 Tractor Trailer DS-2H	
RT-85 w/ 3500 gal Fuel Hot Ice Wind	
Peak 50T crane Hot Ice E-4	
Welding Machine Hot Ice	
Daily Mud Report Time of day Chemicals Mixed	
Mud properties @ 23:00	
MW 9.3	
Funnel Visc. 28.0	
PV Surplus	
YP in	
F/L Pits	
Flowline Temp. To	
pH be	
Chlorides(mg/l)/Ca++ Disposed	
%KCL 10.0	
Freeze Point 23.0	
Hot Ice Main Wtr. Hot Ice Lake	
Consumables Potable Hot Ice Grey Storage Fuel MO167 Equipment Down:	
Previous Balance 4,007 4,704 5,246 6,852 132,584 AQMS System	
Received 3,816 2,165 2,600 DrillCool HEX	
Daily Usage 1,651 1,486 2,165 1,314	
Cumulative Usage (est.) 91,547 55,207 57,908 126,973 135,184	
On Hand 3,498 4,704 5,246 5,538 2H 3400	

<u>Comments:</u> Mobilizing crane to Hot Ice. Moved crane unit & outrigger boxes. Move boom & counterweights today.

Date: Rpt. No.	4/21/2003 84			ot Ice Proje y Drilling Re			E		larko ^å
Operation @	<u>0600:</u>	Preparing to Suspension of	remove 50-ton	crane from	deck				
Accidents/In	ijuries:	None Reporte	•					epth (0600)	1403
Safety:	Pre-job safety	montings at th	no start of oach	a tour			Footage I	his Report	0
ourery.	Tre-job salety	incenings at ti				Tota	al Well Foot	age Cored	1293'
							Well Core I	-	1198.1'
Environmen	tal Incidents:	2 gallon pot.	water spill. Ho	se connecti	on	Core	Recovery P	ercentage	92.7%
_	_		ined & cleaned	•	_			_	
From	То	Hours	IADC Code		ne Summary				-1-4-
0:00	2:30	2.50	6	220' KB.	nded to 220'.	Reverse o	ut mud with	compressed	air to
2:30	6:00	3.50	21	-	and equipme	nt from ria f	loor and sto	re	
6:00	0.00	0.00	1		suspension.				rom
0.00					KB. (19' belo				
					Koomey (iso				
					ntrol hoses b				
					activities on				
	18:00	12.00		7" casing a	nd tools. Hau	ling and rig	ging up 150	-ton crane.	
18:00	19:30	1.50			ng up crane, ⁻				
19:30					lines off platfe				nd
	23:00	3.50			g equipment t				
23:00					urned from 2-	-H with muc	I house, load	d with 115 bb	bls. mud
	0:00	1.00		and ship to	2-H.				
	T-4-1								
Bontol Equi	Total	24.00	Hours Location	Data		(0)(0)	Mud Si	urfaca Tamp	Mioro
Rental Equip Catco 32 Bed		T	DS-2H	Data	Logger Surving	Temp	Time	Irface Temp	Out
Catco Loade			DS-2H	Deptii	Inclination	Temp	TIME		Out
Catco Pickup		-	DS-2H						
Peak Light P		-	DS-2H						
Heater (1)			Hot Ice						
Mattracks (2)			DS-2H						
RD-105 Trac			DS-2H						
RT-85 Tracto	or Trailer								
			DS-2H	Temp.					
RT-85 w/Wat	er House		DS-2H DS-2H	Temp. 12					
RT-85 w/ 350	er House 00 gal Fuel		DS-2H Hot Ice						
RT-85 w/ 350 Peak 50T cr	er House 00 gal Fuel ane		DS-2H Hot Ice Hot Ice	12					
RT-85 w/ 350 Peak 50T cr Welding Mac	er House 00 gal Fuel ane hine		DS-2H Hot Ice Hot Ice Hot Ice	12 Wind calm					
RT-85 w/ 350 Peak 50T cr Welding Mac	er House 00 gal Fuel ane		DS-2H Hot Ice Hot Ice Hot Ice of day	12 Wind calm	als Mixed				
RT-85 w/ 350 Peak 50T cr Welding Mac	er House 00 gal Fuel ane hine Iud Report	NA	DS-2H Hot Ice Hot Ice Hot Ice of day NA	12 Wind calm	als Mixed				
RT-85 w/ 350 Peak 50T cr Welding Mac	er House 00 gal Fuel ane hine Iud Report MW	NA Unloading	DS-2H Hot Ice Hot Ice Hot Ice of day	12 Wind calm	als Mixed				
RT-85 w/ 350 Peak 50T cr Welding Mac	er House 00 gal Fuel ane hine Iud Report MW Funnel Visc.	NA Unloading	DS-2H Hot Ice Hot Ice Hot Ice of day NA	12 Wind calm	als Mixed				
RT-85 w/ 350 Peak 50T cr Welding Mac	er House 00 gal Fuel ane hine Iud Report MW Funnel Visc. PV	NA Unloading	DS-2H Hot Ice Hot Ice Hot Ice of day NA	12 Wind calm	als Mixed				
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RT-85 w/ 350 Peak 50T cr Welding Mac Daily N	er House 0 gal Fuel ane hine Mud Report Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point	NA Unloading	DS-2H Hot Ice Hot Ice of day NA Pits	12 Wind calm Chemica	Hot Ice	MO167	Equipmen		
RT-85 w/ 350 Peak 50T cr Welding Mac Daily M Chlor Consumable	er House 0 gal Fuel ane hine Mud Report Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point	NA Unloading	DS-2H Hot Ice Hot Ice of day NA Pits Hot Ice Grey	12 Wind calm Chemica Main Wtr. Storage	Hot Ice Fuel	MO167	AQMS Syster		ne
RT-85 w/ 350 Peak 50T cr Welding Mac Daily M Chlor Consumable Previous Bala	er House 0 gal Fuel ane hine Mud Report Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point	NA Unloading	DS-2H Hot Ice Hot Ice of day NA Pits Hot Ice Grey	12 Wind calm Chemica Chemica Storage 5,246	Hot Ice Fuel	MO167	AQMS Syster	n	ne
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RT-85 w/ 350 Peak 50T cr Welding Mac Daily N Chlor Previous Bal Received Daily Usage	er House 20 gal Fuel ane hine Iud Report MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point ance	NA Unloading 	DS-2H Hot Ice Hot Ice of day NA Pits Hot Ice Grey 5,390	12 Wind calm Chemica Chemica Storage 5,246 764 4,308 62,216 1,702	Hot Ice Fuel 5,538 1,633	MO167 135,184	AQMS Syster	n	ne

Comments: As of 0600, hauled total of 280 bbls mud from pits fir disposal at DS4 G&I.

Date: 4/23/2003 **Hot Ice Project** Anadaı Rpt. No. 86 **Daily Drilling Report** Operation @ 0600: Suspension operations Accidents/Injuries: None Reported Current Depth (0600) 1403 **Footage This Report** 0 Pre-job safety meetings at the start of each tour. 7" Casing Shoe 1367' Safety: **Total Well Footage Cored** 1293 1198.1' **Total Well Core Recovered** 92.7% **None Reported Core Recovery Percentage**

Environmental Incidents:

From Hours IADC Code Activity Time Summary То 0:00 Continue shipping 150 ton crane to 2-H. Clean mud tanks and Drill Cool and ship residue to 2-H. Remove escape ladders and place inside pipe shed.Continue cleaning and storing hoses. Drain, clean and fill pumps with anti-freeze. Remove & Rack remaining Dura-Mats, send same to 2H. Pickup & Store loose items off deck. 24.00 0:00 Remove & Store Tioga Ducting in Rig Enclosure. Total 24.00 Hours **Rental Equipment** Location **Data Logger Surveys** Mud Surface Temp. Micro Catco 32 Bed Camp DS-2H Depth Inclination Temp Time In Out Catco Loader DS-2H Catco Pickup (1) DS-2H Peak Light Plants (1) DS-2H Heater (1) Hot Ice Mattracks (2) DS-2H RD-105 Tractor & Trailer DS-2H RT-85 Tractor Trailer DS-2H Temp. RT-85 w/Water House DS-2H 13 RT-85 w/ 3500 gal Fuel Hot Ice Wind Peak 50T crane N-7 Hot Ice Welding Machine Hot Ice **Daily Mud Report** Time of day Chemicals Mixed NA NA MW Pits Empty **Funnel Visc** ΡV YP F/L **Flowline Temp** pН Chlorides(mg/l)/Ca++ %KCL Freeze Point Hot Ice Hot Ice Main Wtr. l ake Hot Ice Grey Storage Consumables Potable Fuel MO167 Equipment Down: Previous Balance 3,024 5,000 852 3,145 135,184 Received 1.293 0 Dailv Usage 1.837 1.370 852 560 Cumulative Usage (est.) 96,528 59,123 63,920 128,612 135,184 On Hand 2,480 6,370 2,585 0 2H 5200

Comments: Released Dynatec drilling rig @ 00:00 hrs.

Date: 4/24/2003 Rpt. No. 87 Hot Ice Project Daily Drilling Report



1403

0

1367'

1293'

1198.1' 92.7%

Current Depth (0600)

Footage This Report

Total Well Footage Cored

Total Well Core Recovered

Core Recovery Percentage

7" Casing Shoe

Operation @ 0600: Suspension operations

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

0:00 Pickup & Store lose items off deck. Changed Oil On # & #2 Cenerator Sets. Install Roof Caps On Accommodation. SecureWeld Starso On Conex Doors. Remove North Stairway From Accommodation. Backdoal and Ship Four Loads to 2H. Officad Excess Groceries & Ship 3 Pallets To 2H/Deadhorse. Pack & Store Safety Equipment, Office Equipment, Etc. 24:00 24.00 Data Logger Surveys Mud Surface Temp. Micro Officad Excess Groceries & Ship 3 Pallets To 2H/Deadhorse. Pack & Store Safety Equipment, Office Equipment, Etc. Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Ottager Safety Equipment, Office Equipment, Etc. Catoo 23 Ded Camp D5:2H Depth Inclination Temp Catoo 123 Ded Camp D5:2H Depth Inclination Temp Catoo Loader D5:2H Depth Inclination Temp Catoo Loader D5:2H Depth Inclination Temp Reater (1) Hot ice Hot ice Inclination Temp. RT-55 widder House D5:2H Inclination Inclination RT-55 widder House <th>From</th> <th>То</th> <th>Hours</th> <th>IADC Code</th> <th></th> <th>ne Summary</th> <th></th> <th></th> <th></th> <th></th>	From	То	Hours	IADC Code		ne Summary				
Install Roof Caps On Accommodation. BecureWeld Straps On Concert Sores Remove North Stairway From Accommodation. Backload and Ship Four Loads to 2H. Official Excess Grootents & Ship 3 Pallets To 2H/Deadhorse. Pack & Store Safety Equipment, Office Equipment, Etc. Demob 50 Ton Crane. Pack & Store Safety Equipment, Office Equipment, Etc. Demob 50 Ton Crane. Pack & Store Safety Equipment, Office Equipment, Etc. Catco 32 Bed Camp DS-2H Catco 22 Bed Camp DS-2H Catco 24 Bed Camp DS-2H Catco Dader DS-2H Catco 24 Bed Camp DS-2H Pack Light Plants (1) DS-2H Depth Inclination Trailer DS-2H RD-105 Tractor & Trailer DS-2H RD-105 Tractor & Trailer DS-2H RT-85 Tractor & Trailer DS-2H RT-85 Tractor & Trailer DS-2H RT-85 Tractor & Trailer DS-2H RT-85 Tractor & Trailer DS-2H RT-85 Tractor & Trailer DS-2H RT-85 Tractor & Trailer Hot Ice <tr< td=""><td>0:00</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr<>	0:00									
Secure/Weld Straps On Conex Doors. Backload and Ship Four Loads to 2H. Offload Excess Grooties & Ship 3 Pallets To 2H/Deadhorse. Pack & Store Safety Equipment. Office Equipment, Etc. Demob 50 Ton Crane. Rental Equipment Location Catco I 23 Bed Camp DS-2H Offload Excess Grooties 2 Bed Camp DS-2H Deta Logger Survey Mud Surface Temp. Micro Catco 1 23 Bed Camp DS-2H Deta Logger Survey Mud Surface Temp. Micro Catco 1 23 Bed Camp DS-2H Desk Light Plants (1) DS-2H Heater (1) Hot Ice Mattracks (2) DS-2H Rental Equipment DS-2H Lato Loader DS-2H Peak Light Plants (1) Hot Ice Mattracks (2) DS-2H RT-85 market House DS-2H RT-85 wind are House DS-2H RT-85 wind are House DS-2H RT-85 wind are House DS-2H RT-85 wind are House DS-2H RT-85 wind are House DS-2H RT-85 wind are House										
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Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Catco 23 Bed Camp DS-2H Depth Inclination Time In Out Catco Dader DS-2H Depth Inclination Time In Out Catco Pickup (1) DS-2H Inclination Time In Out Catco Loader DS-2H Inclination Time In Out Catco Pickup (1) DS-2H Inclination <										
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Catco 23 Bed Camp DS-2H Depth Inclination Time In Out Catco Dader DS-2H Depth Inclination Time In Out Catco Pickup (1) DS-2H Inclination Time In Out Catco Loader DS-2H Inclination Time In Out Catco Pickup (1) DS-2H Inclination <										
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Catco Loader DS-2H Image: Catco Pickup (1) Image: Catco Pickup (1) DS-2H Image: Catco Pickup (1) Image: Catco Pickup (1) Image: Catco Pickup (1) DS-2H Image: Catco Pickup (1) Image: Cat								1		
Catco Pickup (1) DS-2H Image: Constraint of the second se					Depth	Inclination	Temp	Time	In	Out
Peak Light Plants (1) DS-2H Image: constraint of the stress of the stre										
Heater (1) Hot Ice Image: consumables										
Mattracks (2) DS-2H Image: constraint of the straint o		ants (T)								
RD-105 Tractor & Trailer DS-2H Temp. RT-85 Tractor Trailer DS-2H Temp. RT-85 w/Water House DS-2H 13 RT-85 w/JS00 gal Fuel Hot Ice Wind Peak 50T crane Hot Ice N-7 Welding Machine Hot Ice N-7 Funnel Visc. PV - Flowline Temp. - - pH - - KCL - - Freeze Point - - Previous Balance 2,480 6,370 0 2,585 135,184 Received 2,375										
RT-85 Tractor Trailer DS-2H Temp. RT-85 w/Water House DS-2H 13 RT-85 w/3500 gal Fuel Hot Ice Wind Peak 50T crane Hot Ice N-7 Welding Machine NA NA WW Pits Empty Funnel Visc. PV PV YP P P Flowline Temp. PH P %KCL P P KCL P Storage Fuel MO167 Eguipment Down: P Previous Balance 2,480 6,370 0 2,585 135,184 Received 2,375 (3,305		or & Trailer								
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RT-85 w/ 3500 gal Fuel Hot Ice Wind Peak 50T crane Hot Ice N-7 Welding Machine Hot Ice N-7 Daily Mud Report Time of day Chemicals Mixed NA NA NA MW Pits Empty Funnel Visc.										
Peak 50T crane Hot Ice N-7 Welding Machine Hot Ice Daily Mud Report Time of day Chemicals Mixed NA NA MW Pits Empty Funnel Visc. PV PV Pits Flowline Temp. Pits Flowline Temp. Pits PH Pits Chlorides(mg/l)/Ca++ Pits %KCL Pits Freeze Point Hot Ice Potable Hot Ice Grey Storage Fuel MO167 Equipment Down: Previous Balance 2,480 6,370 0 2,585 135,184 Received 2,375 (3,305) 0 3,326 - Daily Usage 1,993 2,374 - 1,509 Cumulative Usage (est.) 98,677 60,127 63,920 130,121 135,184					-					
Daily Mud Report Time of day Chemicals Mixed NA NA NA MW Pits Empty Funnel Visc.										
NA NA MW Pits Empty Funnel Visc.	Welding Mach	nine		Hot Ice	1					
MW Pits Empty Funnel Visc.	Daily M	ud Report	Time	of day	Chemica	als Mixed				
Funnel Visc. Image: Product of the second seco	_	-	NA	NA						
PV Image: market m		MW	Pits	Empty						
YP Image: Constraint of the system of the syst		Funnel Visc.								
F/L Image: Chlorides(mg/l)/Ca++ Image: Chlorides(mg/l)										
Flowline Temp. pH Image: Main Wtr. Hot Ice Lake MKCL Image: Main Wtr. Hot Ice Lake MKCL Image: Main Wtr. Hot Ice Lake Freeze Point Image: Main Wtr. Hot Ice Lake Previous Balance 2,480 6,370 0 2,585 135,184 Received 2,375 (3,305) 0 3,326 - Daily Usage 1,993 2,374 - 1,509 Image: Main Wtr. On Hand 2,862 5,439 0 4,402 Image: Main Wtr. Image: Main Wtr.		YP								
pH Image: Main Wtr. Hot Ice Equipment Down: %KCL Image: Main Wtr. Hot Ice Lake Freeze Point Image: Main Wtr. Hot Ice Lake Potable Hot Ice Grey Storage Fuel MO167 Previous Balance 2,480 6,370 0 2,585 135,184 Received 2,375 (3,305) 0 3,326 - Daily Usage 1,993 2,374 - 1,509 Image: Main Wtr. On Hand 2,862 5,439 0 4,402 Image: Main Wtr. Image: Main Wtr.										
Chlorides(mg/l)/Ca++ %KCL Image: Chlorides(mg/l)/Ca++ %K										
%KCL Freeze Point Image: Main Wtr. Hot Ice Fuel Main Wtr. Hot Ice Fuel Lake MO167 Equipment Down: Consumables Potable Hot Ice Grey Storage Fuel MO167 Equipment Down: Previous Balance 2,480 6,370 0 2,585 135,184 Received 2,375 (3,305) 0 3,326 - Daily Usage 1,993 2,374 - 1,509 Cumulative Usage (est.) 98,677 60,127 63,920 130,121 135,184 On Hand 2,862 5,439 0 4,402 -										
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Hot Ice Consumables Hot Ice Potable Hot Ice Grey Hot Ice Grey Main Wtr. Storage Hot Ice Fuel Lake MO167 Equipment Down: Previous Balance 2,480 6,370 0 2,585 135,184 Received 2,375 (3,305) 0 3,326 - Daily Usage 1,993 2,374 - 1,509 Cumulative Usage (est.) 98,677 60,127 63,920 130,121 135,184 On Hand 2,862 5,439 0 4,402 -		-			4					
Consumables Potable Hot Ice Grey Storage Fuel MO167 Equipment Down: Previous Balance 2,480 6,370 0 2,585 135,184 Received 2,375 (3,305) 0 3,326 - Daily Usage 1,993 2,374 - 1,509 Cumulative Usage (est.) 98,677 60,127 63,920 130,121 135,184 On Hand 2,862 5,439 0 4,402 -		Freeze Point						1		
Previous Balance 2,480 6,370 0 2,585 135,184 Received 2,375 (3,305) 0 3,326 - Daily Usage 1,993 2,374 - 1,509 Cumulative Usage (est.) 98,677 60,127 63,920 130,121 135,184 On Hand 2,862 5,439 0 4,402 -	Company							E en de marca d	Davies	
Received 2,375 (3,305) 0 3,326 - Daily Usage 1,993 2,374 - 1,509 - Cumulative Usage (est.) 98,677 60,127 63,920 130,121 135,184 On Hand 2,862 5,439 0 4,402 -								Equipment	Dowu:	
Daily Usage 1,993 2,374 - 1,509 Cumulative Usage (est.) 98,677 60,127 63,920 130,121 135,184 On Hand 2,862 5,439 0 4,402 1								-		
Cumulative Usage (est.) 98,677 60,127 63,920 130,121 135,184 On Hand 2,862 5,439 0 4,402							-	-		
On Hand 2,862 5,439 0 4,402		sane (est)					135 19/			
							100,104	-		
	Sirriana		2,002	5,735	U U	2H 4100		1		

<u>Comments:</u> Gary Schultz of DNR Conducted Site Inspection and Gave Verbal Approval. Stated He Would Follow-up With An Email To Bob. Loaded Trailers & Hauled Three Loads From 2H to Deadhorse. Date: 4/25/2003 Rpt. No. 88 Hot Ice Project Daily Drilling Report



1403

0

1367'

1293'

1198.1' 92.7%

Current Depth (0600)

Footage This Report

Total Well Footage Cored

Total Well Core Recovered

Core Recovery Percentage

7" Casing Shoe

Operation @ 0600: Suspension operations

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

0:00 Pickup & Store loose items off deck. 0:00 SecureWeld Straps On Conex Doors. Backload and Ship Manift & Waste Bin To 2H. Tear Out 18 Mats From Snow Ramy & Ship To 2H. Board Up Accommodations Windows, Remove Satellite TV Dish. Pack & Store Sately Equipment, Office Equipment, Etc. Hauled Aluminum Weiding Machines. Pack & Store Sately Equipment, Office Equipment, Etc. Heater Hoses & Office Supplies to 2H in Mattrack - 3 Trips. Demobbed Loader to 2H. Hauled 2 Loads Grey Water to 2H. Rental Equipment Location Catco O2 Bed Camp DS-2H Catco O2 Bed Camp DS-2H Catco O2 Cato O3 DS-2H Peak Light Plants (1) DS-2H Depth Inclination Tractor & Trailer DS-2H Depth Inclination Tractor & Trailer DS-2H Depth Inclination Tractor & Trailer DS-2H Depth Inclination Robot Stractor Trailer DS-2H Robot Stractor Trailer DS-2H Robot Stractor Trailer DS-2H	From	То	Hours	IADC Code	Activity Tir	ne Summary	,			
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Catco 23 Bed Camp DS-2H Depth Inclination Temp Time In Out Catco Loader DS-2H Depth Inclination Temp Time In Out Catco Pickup (1) DS-2H Inclination Temp Inclination Temp Out Catco Pickup (1) DS-2H Inclination Temp Inclination Temp Inclination Temp Inclination Out Out Out Inclination Inclination <td>0:00</td> <td>24:00</td> <td>24.00</td> <td></td> <td colspan="6">Secure/Weld Straps On Conex Doors. Backload and Ship Manlift & Waste Bin To 2H. Tear Out 18 Mats From Snow Ramp & Ship To 2H. Board Up Accommodations Windows, Remove Satellite TV Dish. Pack & Store Safety Equipment, Office Equipment, Etc. Hauled Aluminum Welding Machines, Spare Duck Ponds, Peak Heater Hoses & Office Supplies to 2H In Mattrack - 3 Trips.</td>	0:00	24:00	24.00		Secure/Weld Straps On Conex Doors. Backload and Ship Manlift & Waste Bin To 2H. Tear Out 18 Mats From Snow Ramp & Ship To 2H. Board Up Accommodations Windows, Remove Satellite TV Dish. Pack & Store Safety Equipment, Office Equipment, Etc. Hauled Aluminum Welding Machines, Spare Duck Ponds, Peak Heater Hoses & Office Supplies to 2H In Mattrack - 3 Trips.					
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Catco 23 Bed Camp DS-2H Depth Inclination Temp Time In Out Catco Loader DS-2H Depth Inclination Temp Time In Out Catco Pickup (1) DS-2H Inclination Temp Inclination Temp Out Catco Pickup (1) DS-2H Inclination Temp Inclination Temp Inclination Temp Inclination Out Out Out Inclination Inclination <td></td> <td>Total</td> <td>24.00</td> <td>Hours</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		Total	24.00	Hours						
Catco 32 Bed Camp DS-2H Depth Inclination Temp Time In Out Catco Codder DS-2H DS-2H Image: Catco Pickup (1) DS-2H Image: Catco Pickup (1)	Rental Equip				Data	Logger Surv	vevs	Mud Su	rface Tem	o. Micro
Catco Loader DS-2H Image: Catco Pickup (1) Image: Catco Pickup (1) DS-2H Image: Catco Pickup (1) Image: Catco Pickup (1) Image: Catco Pickup (1) DS-2H Image: Catco Pickup (1) Image: Cat										
Catco Pickup (1) DS-2H Image: Constraint of the system of										
Peak Light Plants (1) DS-2H Image: constraint of the second seco	Catco Pickup	(1)								
Heater (1) Hot Ice Image: constraint of the second se										
Mattracks (2) DS-2H Image: constraint of the system of th										
RT-85 Tractor Trailer DS-2H Temp. RT-85 w/Water House DS-2H 35 RT-85 w/3500 gal Fuel Hot Ice Wind Peak 50T crane Hot Ice SW-5 Welding Machine Hot Ice SW-5 Daily Mud Report Time of day Chemicals Mixed NA NA NA YP				DS-2H						
RT-85 w/Water House DS-2H 35 RT-85 w/ 3500 gal Fuel Hot Ice Wind Peak 50T crane Hot Ice SW-5 Welding Machine Hot Ice SW-5 Welding Machine Hot Ice SW-5 Welding Machine Hot Ice SW-5 Welding Mud Report Time of day Chemicals Mixed NA NA NA PV P P Funnel Visc. P P Flowline Temp. PH P %KCL PH P %KCL Potable Hot Ice Grey Storage Freeze Point Hot Ice Grey Storage Fuel MO167 Previous Balance 2,862 5,439 0 4,402 135,184 Received 2,068 (3,554) 0 - Daily Usage 1,655 2,035 - 852 Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184	RD-105 Tracto	or & Trailer		DS-2H						
RT-85 w/ 3500 gal Fuel Hot Ice Wind Peak 50T crane Hot Ice SW-5 Welding Machine Hot Ice SW-5 Welding Machine Hot Ice SW-5 Welding Machine Hot Ice SW-5 Wuld Report Time of day Chemicals Mixed NA NA NA MW Pits Empty Funnel Visc. PV PV PV Flowline Temp. PH Chlorides(mg/l)/Ca++ PH %KCL Previous Balance 2,862 Previous Balance 2,862 5,439 0 2,068 (3,554) 0 - Daily Usage 1,655 2,035 - Cumulative Usage (est.) 100,332 7,474 63,920 130,973	RT-85 Tractor	Trailer		DS-2H	Temp.					<u> </u>
Peak 50T crane Hot Ice SW-5 Welding Machine Hot Ice Daily Mud Report Time of day Chemicals Mixed NA NA MW Pits Empty Funnel Visc. PV PV PV Flowline Temp. PH PH PH Chlorides(mg/l)/Ca++ PH %KCL Previous Balance Previous Balance 2,862 5,439 0 Received 2,068 (3,554) 0 Daily Usage 1,655 2,035 - Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184	RT-85 w/Wate	er House		DS-2H	35					
Welding Machine Hot Ice Daily Mud Report Time of day Chemicals Mixed NA NA NA MW Pits Empty Funnel Visc. PV PV PV PV PV Flowline Temp. PH PH PH PH PH Chlorides(mg/l)/Ca++ Potable Main Wtr. Hot Ice Lake Freeze Point Potable Hot Ice Grey Storage Fuel MO167 Previous Balance 2,862 5,439 0 4,402 135,184 Previous Balance 2,862 5,439 0 - Daily Usage 1,655 2,035 - 852 Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184	RT-85 w/ 3500) gal Fuel		Hot Ice	Wind					
Daily Mud Report Time of day Chemicals Mixed NA NA MW Pits Funnel Visc.	Peak 50T cra	ne		Hot Ice	SW-5					
NA NA MW Pits Empty Funnel Visc.	Welding Mach	line		Hot Ice						
MW Pits Empty Funnel Visc.	Daily Mu	ud Report	Time	of day	Chemica	als Mixed				
Funnel Visc. Image: Construct of the system of the sys			NA	NA						
PV		MW	Pits	Empty						
YP										
F/L Image: constraint of the system of the sys										
Flowline Temp.										
pH										
Chlorides(mg/l)/Ca++		-								
%KCL Freeze Point Main Main Wtr. Hot Ice Lake Consumables Potable Hot Ice Grey Storage Fuel MO167 Equipment Down: Previous Balance 2,862 5,439 0 4,402 135,184 Received 2,068 (3,554) 0 - Daily Usage 1,655 2,035 - 852 Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184										
Hot Ice Main Wtr. Hot Ice Lake Consumables Potable Hot Ice Grey Storage Fuel MO167 Equipment Down: Previous Balance 2,862 5,439 0 4,402 135,184 Received 2,068 (3,554) 0 - Daily Usage 1,655 2,035 - 852 Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184	Chlorie									
Hot Ice Main Wtr. Hot Ice Lake Previous Balance 2,862 5,439 0 4,402 135,184 Received 2,068 (3,554) 0 - Daily Usage 1,655 2,035 - 852 Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184					-					
Consumables Potable Hot Ice Grey Storage Fuel MO167 Equipment Down: Previous Balance 2,862 5,439 0 4,402 135,184 Received 2,068 (3,554) 0 - Daily Usage 1,655 2,035 - 852 Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184		Freeze Point			Main 144	Hot loo	Lako	1		
Previous Balance 2,862 5,439 0 4,402 135,184 Received 2,068 (3,554) 0 - Daily Usage 1,655 2,035 - 852 Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184	Consumables			Hot Ice Grey				Fauinment	Down	
Received 2,068 (3,554) 0 - Daily Usage 1,655 2,035 - 852 Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184					-			Lquipillell	DOWII.	
Daily Usage 1,655 2,035 - 852 Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184						-1,702	-			
Cumulative Usage (est.) 100,332 7,474 63,920 130,973 135,184				. ,		852	_			
		sage (est.)					135 184			
	On Hand		3,275	3,920	00,020	3,550	,	1		

2H-4169

<u>Comments:</u> Peak Loader Released & Offsite Enroute to 2H @ 2100 hours. Catco 90-14 & 90-18 Rolligons Released & Offsite Enroute to 2H @ 2100 Hours. Date: 4/27/2003 Rpt. No. 90 Hot Ice Project Daily Drilling Report



1403

0

1367

1293'

1198.1'

92.7%

Current Depth (0600)

Footage This Report

Total Well Footage Cored

Total Well Core Recovered

Core Recovery Percentage

7" Casing Shoe

Operation @ 0600: Suspension Operations

Accidents/Injuries: None Reported

<u>Safety:</u> Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From	То	Hours	IADC Code	Activity Ti	me Summar	/			
0:00	24:00	24.00		Clean Kitchen Grease Trap. Shut Down Camp Water Supply & Drain All Lines. Pump Out Grey Water Lift Station & Vacuum Dry. Disconnect Emergency Lighting & Alarm Panel Battries. Shut Down Generator Power & Preserve Generators. (Reference Generator Startup Procedure In Activation Folder, "Desiccant Installed In Air Intakes & Exhaust Discharge Pipe Sealed") Secure Camp & Support Unit Doors, Elevate Stair, Demob Shut Down Personnel To 2H At 1800 Hours.					
	Total	24.00	Hours						
Rental Equip			Location	Data	Logger Sur	veys	Mud Su	rface Tem	p. Micro
Catco 32 Bed			DS-2H	Depth	Inclination	Temp	Time	In	Out
Catco Loader	·		DS-2H						
Catco Pickup	(1)		DS-2H						
Mattracks (2)			DS-2H						
				Temp. 28 Wind NE- 20					
Daily M	ud Report	Time	of day	Chemic	als Mixed				
	•	NA	NA						
	MW Funnel Visc. PV YP F/L	Pits	Empty						
F	lowline Temp.			1					
	pH								
Chlorid	des(mg/I)/Ca++								
	%KCL								
	Freeze Point			N	Hot Ice	l aka	1		
Consumable	e .	Hot Ice Potable	Hot Ice Grey	Main Wtr. Storage	Fuel	Lake MO167	Equipment	Down	
Previous Bala		1,113	931	Storage 0	3,550	135,184	<u>-quipinen</u>	DOWII.	
Received		1,115	(2,044)			-			
Daily Usage		1,113	1,113	-	(741)	-			
Cumulative U	sage (est.)	103,607	65,437	63,920		135,184			
On Hand	eugo (000.)	0	0	0	4,291	0			
		•	· ·	· · ·		•			

2H-2800

<u>Comments:</u> Shipped Remainder of Equipment From 2H to Deadhorse. Note: Total Fuel Inclusive Of Day Tanks As Per Consumable Sheet Attached. Date: 4/28/2003 Rpt. No. 91 Hot Ice Project Daily Drilling Report



1403

0

1367'

1293

1198.1'

92.7%

Current Depth (0600)

Footage This Report

Total Well Footage Cored

Total Well Core Recovered

Core Recovery Percentage

7" Casing Shoe

Operation @ 0600: Suspension Operations

Accidents/Injuries: None Reported

Safety: Pre-job safety meetings at the start of each tour.

Environmental Incidents: None Reported

From То Hours IADC Code Activity Time Summary 0:00 Demob Personnel to Deadhorse Airport Load Mattracks & Deliver To Peak Light Vehicle Shop, For Service And Installation Of Tires. Observe Catco Demobilization Of Canning River Camp. Conduct Inspection & General Cleanup Of 2H Pad. 24.00 Assist Deadhorse Warehouse With Material Disposition. 24:00 Total 24.00 Hours **Rental Equipment** Location **Data Logger Surveys** Mud Surface Temp. Micro DEMOB Inclination Catco 32 Bed Camp Depth Temp Time In Out Catco Loader DEMOB Catco Pickup (1) DEMOB Mattracks (2) Deadhorse Temp. 28 Wind NE- 20 **Daily Mud Report** Time of day Chemicals Mixed NA NA MW Pits Empty Funnel Visc. P٧ YP F/L **Flowline Temp** pН Chlorides(mg/l)/Ca++ %KCL Freeze Point Hot Ice Hot Ice Lake Main Wtr. Storage Consumables Potable Hot Ice Grey Fuel MO167 Equipment Down: Previous Balance 1,113 931 0 3,550 135,184 Received (2,044)0 Daily Usage 1.113 1.113 882 Cumulative Usage (est.) 103,607 65,437 63,920 132,737 135,184 On Hand 0 0 0 2,668 0 2H-3200

Comments: Attempting To Sign Off 2H Pad Today.

Date: 4/29/2003 Rpt. No. 92 Hot Ice Project Daily Drilling Report



1403

0

1367'

1293'

1198.1' 92.7%

Current Depth (0600)

Footage This Report

Total Well Footage Cored

Total Well Core Recovered

Core Recovery Percentage

7" Casing Shoe

Operation @ 0600:

Accidents/Injuries:

Safety:

Environmental Incidents:

None Reported

None Reported

Suspension Operations

From	То	Hours	IADC Code		ne Summary				
6:00					ign Off On Cl				
					ne Mattrack				
					& Distribute				use
	18:00	12.00		Company N	lan & ACS Te	echnician D	eparted Dea	dhorse	
	Total	12.00	Hours						
Rental Equip			Location	Data	Logger Sur	vevs	Mud Su	Irface Tem	p. Micro
Mattracks (2)			Deadhorse	Depth	Inclination	Temp	Time	In	Out
			2000.000						
				Temp.					•
				32					
				Wind					
				NE- 20					
Daily M	ud Report	Time	of day	Chemic	als Mixed				
		NA	NA						
	MW	Pits	Empty						
	Funnel Visc.								
	PV								
	YP								
	F/L								
	Flowline Temp.								
	pН								
Chlorie	des(mg/l)/Ca++								
	%KCL								
	Freeze Point								
		Hot Ice		Main Wtr.	Hot Ice	Lake			
Consumables	S	Potable	Hot Ice Grey	Storage	Fuel	MO167	Equipment	t Down:	
Previous Bala	nce	1,113	931	0	3,550	135,184			
Received			(2,044)	0		-			
Daily Usage		1,113	1,113	-	882				
Cumulative Us	sage (est.)	103,607	65,437	63,920	132,737	135,184			
On Hand		0	0	0	2,668	0			
					2H-3200		-		

<u>Comments:</u> CPAI DS2H Staging Pad Signed Off At 1000 Hours By Tara Essary & Jeff Smith Of CPAI, Craig Watson & Victor Wylagala Representing Anadarko.

Date: 4/30/2003 Rpt. No. 93 Hot Ice Project Daily Drilling Report



1403

0

1367'

1293'

1198.1'

92.7%

Current Depth (0600)

Footage This Report

Total Well Footage Cored

Total Well Core Recovered

Core Recovery Percentage

7" Casing Shoe

Operation @ 0600:

Accidents/Injuries:

Safety:

Environmental Incidents:

None Reported

None Reported

Suspension Operations

Image: Total 12.00 Pack. Ship. & Distribute Material From Deadhorse Warehouse Dynatec Driver Depart on PM Flight. Total 12.00 Hours Multiple Multiple Multiple Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Image: Comparison of the state of the s	From	То	Hours	IADC Code		me Summary				
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Inclination Temp Inclination Temp Inclination Inclination <td>6:00</td> <td>18:00</td> <td>12.00</td> <td></td> <td colspan="5">Pack, Ship, & Distribute Material From Deadhorse Warehouse</td>	6:00	18:00	12.00		Pack, Ship, & Distribute Material From Deadhorse Warehouse					
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Temp Inclination Temp Inclination Inclination <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Inclination Temp Inclination Temp Inclination Inclination <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Temp Inclination Temp Inclination Inclination <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Mattracks (2) Deadhorse Depth Inclination Temp Temp Inclination Temp Inclination Inclination <td></td> <td>Total</td> <td>12.00</td> <td>Hours</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		Total	12.00	Hours						
Mattracks (2) Deadhorse Depth Inclination Temp Time In Out Image: Solution of the solution o	Rental Equip		12100		Data	Logger Sur	vevs	Mud Su	rface Tem	p. Micro
Image: state of the s										
Image: space										
Image: space										
Image: space										
Image: space										
Image: space										
Image: space										
Image: Name of day Chemicals Mixed NA NA MW Pits Funnel Visc. PV FV PV F/L PV Flowline Temp. PH PH PH Freeze Point Hot Ice Freeze Point Hot Ice Grey Storage Fuel MO167 Equipment Down: Previous Balance 1,113 1,113 1,113 Quality Usage 1,113 Quality Usage (est.) 103,607 On Hand 0 0					Temp.					
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Daily Mud Report Time of day Chemicals Mixed NA NA NA MW Pits Empty Funnel Visc.										
NA NA MW Pits Empty Funnel Visc.					NE- 20					
NA NA MW Pits Empty Funnel Visc.										
MW Pits Empty Funnel Visc.	Daily Mu	ud Report			Chemic	als Mixed				
Funnel Visc. Image: Construct of the system of										
PV			Pits	Empty						
YP Image: Second system Flowline Temp. Image: Second system pH Image: Second system Chlorides(mg/l)/Ca++ Image: Second system %KCL Image: Second system %KCL Image: Second system Freeze Point Image: Second system Previous Balance 1,113 931 0 3,550 135,184 Received (2,044) 0 Image: Second system										
F/L Image: constraint of the system of the sys										
Flowline Temp. Image: Chlorides(mg/l)/Ca++ Image: Chlo										
pH Chlorides(mg/l)/Ca++ %KCL										
Chlorides(mg/l)/Ca++										
%KCL Freeze Point Main Main Wtr. Hot Ice Lake Consumables Potable Hot Ice Grey Storage Fuel MO167 Equipment Down: Previous Balance 1,113 931 0 3,550 135,184 Received (2,044) 0 - Daily Usage 1,113 1,113 - 882 Cumulative Usage (est.) 103,607 65,437 63,920 132,737 135,184 On Hand 0 0 0 2,668 0 0										
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Previous Balance 1,113 931 0 3,550 135,184 Received (2,044) 0 - Daily Usage 1,113 1,113 - 882 Cumulative Usage (est.) 103,607 65,437 63,920 132,737 135,184 On Hand 0 0 0 2,668 0	Construct							E en der men	Davies	
Received (2,044) 0 - Daily Usage 1,113 1,113 - 882 Cumulative Usage (est.) 103,607 65,437 63,920 132,737 135,184 On Hand 0 0 0 2,668 0					-			⊑quipment	Down:	
Daily Usage 1,113 1,113 - 882 Cumulative Usage (est.) 103,607 65,437 63,920 132,737 135,184 On Hand 0 0 0 2,668 0		nce	1,113			3,550				
Cumulative Usage (est.) 103,607 65,437 63,920 132,737 135,184 On Hand 0 0 0 2,668 0			1 1 1 2		-	000	-			
On Hand 0 0 0 2,668 0		sana (ast.)					135 194			
		baye (כסו.)								
			0	0	0	2,008 2H-3200	0	l		

Appendix B: Daily Drilling Reports for 2003-2004 Drilling Season

Date: Rpt. No.	1/12/2004 1	Hot Ice Project Daily Drilling Report	Anadarko ^t	
Operation @	<u>0600:</u>	Ice Road Construction - Deadhorse Set-up		
Accidents/Ir	<u>ijuries:</u>	None Reported	Current Depth (0600) Footage This Report	
<u>Safety:</u>	Pre-job safety	y meetings at the start of each tour.		
Environmen	tal Incidents:	None Reported	Total Well Footage Cored Total Well Core Recovered Core Recovery Percentage	0

From	То	Hours	IADC Code						
From	To	Hours	IADC Code	Activity Time Summary Lake K209 open, Water house set & profiling complete Ice road pioneered .3 miles, construction 50% complete .2 miles 3080 Bbls water 210 yds ice chips 8 man crew, additional crew anticipated in near future Note: Power line elevation is 29.7' AGL, need to adjust for ice road Note: Daily costs reflect standby obligations from Jan. 01, 2004 to present as well as Drlg. Supt & ECT time in Anchorage					
	Total	0.00	Hours						
Rental Equip		0.00	Location	Data	Logger Sur	VAVS	Mud Su	rface Temp	Micro
Pickup Truck		Dynatech	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Pickup Truck		Airport Rntls	Deadhorse						
Passenger Va		PBHotel	Deadhorse						
				Temp.					
				-5					
				Wind					
				5 - 10					
	ud Report		of day	Chemicals Mixed					
Mud pro	operties @	9:00	20:00						
	MW								
	Funnel Visc.			-					
	PV	-		-					
	YP	-	-	-					
	F/L			-					
1	Flowline Temp.								
Chlori	pH Lao(ma/l)/Colu								
Chiori	des(mg/l)/Ca++ %KCL			-					
	Freeze Point		+	1					
	TTEEZE T OIII	•				Lake	Lake		
						K209	K209 (ice		
		Hot Ice		Main Wtr.	Hot Ice	(water-	chips -		
Consumable	s	Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)	Equipmen	t Down:
Previous Bala		1	1			840	-		
Received						3,080	210		
Daily Usage									
Cumulative U	lsage (est.)					3,920	210		
On Hand									

Date: Rpt. No.	1/13/2004 2	Hot Ice Project Daily Drilling Report	Anadarko ⁴	
Operation @	<u>ð 0600:</u>	Ice Road Construction - Deadhorse Set-up	20	
Accidents/I	njuries:	None Reported	Current Depth (0600) Footage This Report	1403 0
Safety:	Pre-job safet	y meetings at the start of each tour.	rootage mis Report	v
	-	-	Total Well Footage Cored	0
			Total Well Core Recovered	0
Environmer	ntal Incidents:	None Reported	Core Recovery Percentage	0.0%

From	То	Hours	IADC Code	Activity Ti	me Summar	у			
				Continued	road pioneee	ring to 1st s	stream cross	sing (PI #3)	
				Ice road pie	oneered .9 m	iles, constru	ction 70% o	complete .2	miles
					water 90 yds				
					w, additional				
				Expect 6 a	dditional worl	kers by end	of tour on 1	/14/04	
									i
	Total	0.00	Hours						
Rental Equip		0.00	Location	on Data Logger Surveys Mud Surface Temp. Mici			Micro		
Pickup Trucks		Dynatech	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Pickup Trucks		Airport Rntls	Deadhorse						
Passenger Va		PBHotel	Deadhorse						
							-		
				Temp.					
				-5 / -20					
				Wind					
				5 - 10					
Delle M	ud Damant	Time	of dou	Ohamia	ala Missad				
	ud Report		of day	Cnemic	als Mixed				
	operties @	9:00	20:00						
	MW Funnel Visc.								
	PUILLER VISC.								
	YP								
	 F/L								
F	- Iowline Temp.								
-	pH								
Chlorid	des(mg/l)/Ca++								
	` ΄΄%κc∟								
	Freeze Point								
						Lake	Lake		
						K209	K209 (ice		
		Hot Ice		Main Wtr.	Hot Ice	(water -	chips -		
Consumable		Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)	Equipmen	t Down:
Previous Bala	ance					3,920	210		
Received						4,235	90		
Daily Usage						0.455	0.00		
Cumulative U	sage (est.)					8,155	300		
On Hand									

Date: Rpt. No.	1/14/2004 3	Hot Ice Project Daily Drilling Report	Anadarka ¹	
Operation @	<u>0600:</u>	Ice Road Construction - Deadhorse Set-up		
Accidents/I	njuries:	None Reported	Current Depth (0600)	1403
Safety:	Pre-job safet	y meetings at the start of each tour.	Footage This Report	0
-	_	-	Total Well Footage Cored	0
			Total Well Core Recovered	0
Environmen	tal Incidents:	None Reported	Core Recovery Percentage	0.0%

From To	Hours	IADC Code						
			Continued	road pioneee	ring past 1s	st stream cro	ossing (PI #	4)
				oneered .9 m			complete .8	miles
				water 1,050		S		
			22 man cre	w, full conting	gency			
Total	0.00	Hours						
Rental Equipment	0.00	Location	Data	Logger Sur	vevs	Mud Su	rface Temp	Micro
Pickup Trucks (2)	Dynatech	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Pickup Trucks (3)	Airport Rntls	Deadhorse						
Passenger Van (1)	PBHotel	Deadhorse						
			Temp.					
			-15 / -25					
			Wind					
			0 - 10					
Daily Mud Report	Time	of day	Chemic	als Mixed				
Mud properties @	9:00	20:00						
MW								
Funnel Visc.								
PV								
YP								
F/L								
Flowline Temp								
pH								
Chlorides(mg/l)/Ca++								
%KCL Freeze Point								
Freeze Point						Laka	1	
						Lake K209 (ice		
	Hot Ice		Main Wtr.	Hot Ice	Lake	chips -		
Consumables	Potable	Hot Ice Grey	Storage	Fuel	K209	yds)	Equipment	Down:
Previous Balance			Cloruge	1 401	8,155	300	-40191116111	
Received	<u> </u>				6,195	1,050		
Daily Usage					3,100	1,000		
Cumulative Usage (est.)	<u> </u>				14,350	1,350		
On Hand					,	.,		

Date: Rpt. No.	1/15/2004 4	Hot Ice Project Daily Drilling Report	Anadarko [‡]	
Operation @	<u>0600:</u>	Ice Road Construction - Deadhorse Set-up	20	
Accidents/li	njuries:	None Reported	Current Depth (0600) Footage This Report	
Safety:	Pre-job safet	y meetings at the start of each tour.		
	-	-	Total Well Footage Cored	0
			Total Well Core Recovered	0
Environmer	tal Incidents:	None Reported	Core Recovery Percentage	0.0%

From To	Hours	IADC Code	Activity Ti	me Summar	y			
				road pioneee				
				oneered 2.8 n			complete 1	.7 miles
				water 1,080		55		
			19 man cre	ew, full conting	gency			
			Lab Unite /	Arrived in Dea	dhoreo			
				Smart Equipm		in Deadhor	92	
				r Fluid Arrived				
				lisc. Arrived i				
Total	0.00	Hours						
Rental Equipment	0.00	Location	Data	Logger Sur	VOVS	Mud Su	rface Temp	Micro
Pickup Trucks (2)	Dynatech	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Pickup Trucks (3)	Airport Rntls	Deadhorse	Deptil	inclination	Temp	11110		out
Passenger Van (1)	PBHotel	Deadhorse						
			Temp.					
			-20 / -40					
			Wind					
			0 - 10	l				
Daily Mud Report	Time	of day	Chemic	als Mixed				
Mud properties @	9:00	20:00	•					
MW		20.00						
Funnel Visc								
P\	/							
YF]					
F/L			4					
Flowline Temp								
pH			4					
Chlorides(mg/l)/Ca++			4					
%KCI Freeze Poin			-					
Freeze Poin	ч 				Lake	Lake	1	
					K209	K209 (ice		
	Hot Ice		Main Wtr.	Hot Ice	(water-	chips -		
Consumables	Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)	Equipment	Down:
Previous Balance		· · · ·	Ť		14,350	1,350		
Received					9,030	1,080]	
Daily Usage								
Cumulative Usage (est.) On Hand					23,380	2,430		

Date: Rpt. No.	1/16/2004 5	Hot Ice Project Daily Drilling Report	Anadarko ^t	
Operation @	<u>0600:</u>	Ice Road Construction - Deadhorse Set-up	20	
Accidents/Ir	<u>juries:</u>	None Reported	Current Depth (0600 Footage This Repor	·
Safety:	Pre-job safet	y meetings at the start of each tour.		
	-	-	Total Well Footage Corec	0
			Total Well Core Recovered	0
Environmen	tal Incidents:	None Reported	Core Recovery Percentage	0.0%

From	То	Hours	IADC Code	Activity Ti	me Summar	y			
					road pioneee				
					oneered 3.4 r				
					ork on pipeliı		ecurity guar	rd shack pa	d
					ossing 75% c				
					t water to tha		ment		
					water 930 yd				
				20 man cre	w, full conting	gency			
				Send two E	Dynatec truck	s and Mattra	acks back to	o SLC	
	Total	0.00	Haura						
Pontal Equin		0.00	Hours Location	Dete			Mud Su	rface Temp	Mioro
Rental EquipmentPickup Trucks (5)Airport Rntls		Airport Potle	Deadhorse	Depth	Logger Sur	Temp	Time	In In	Out
Passenger Va		Airport Rntls PBHotel	Deadhorse	Depth	inclination	remp	Time		Out
rassenger va	ari (1)	F DI IULEI	Deaunoise						
				Temp.					
				-20 / -40					
				Wind					
				0 - 10					
					1				
Daily M	ud Report	Time	of day	Chemicals Mixed					
	perties @	9:00	20:00						
·	MW								
	Funnel Visc.								
	PV								
	YP								
	F/L								
F	lowline Temp.								
	рН								
Chloric	les(mg/l)/Ca++								
	%KCL								
	Freeze Point								
						Lake	Lake		
						K209	K209 (ice		
		Hot Ice		Main Wtr.	Hot Ice	(water-	chips -		_
Consumable		Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)	<u>Equipmen</u>	t Down:
Previous Bala	nce					23,380	2,430		
Received						9,415	930		
Daily Usage	,		l			00 =0-	0.005		
Cumulative U	sage (est.)					32,795	3,360		
On Hand									

Date: Rpt. No.	1/17/2004 6	Hot Ice Project Daily Drilling Report	Anadarka ^f	
Operation @	<u>ð 0600:</u>	Ice Road Construction - Deadhorse Set-up	26	
Accidents/I	njuries:	None Reported	Current Depth (0600)	1403
Safety:	Pre-job safet	y meetings at the start of each tour.	Footage This Report	0
			Total Well Footage Cored	0
			Total Well Core Recovered	0
Environmer	ntal Incidents:	None Reported	Core Recovery Percentage	0.0%

Continued road pioneering past 1st stream crossing the road pioneering past 1st stream 20% complete 3.7 miles Continue work on pipeline ramp & move security guard shack Maintenance on completed sections of road. 9.385 Bbls water 720 yds loe chips 21 man crew, full contingency Rental Equipment L Decation Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Depti Inclination Temp. Inclination Temp. Inclination Temp. Inclination Temp. Inclination Mud properties @ 9:00 20:00 Mud properties @ 9:00	From	То	Hours	IADC Code						
Total 0.00 Hours Alignment Security cuard shack Partial Equipment 0.00 Hours Multicinance on completed sections of road. Pickup Trucks (5) Airport Rnts Deadhorse Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnts Deadhorse Image: Complete Sections Image: Complete Sections Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp. Passenger Van (1) PBHotel Deadhorse Image: Complete Sections Image: Complete Sections Image: Complete Section Section Image: Complete Sections Image: Complete Sections Image: Complete Sections Image: Complete Section Section Image: Complete Sections Image: Complete Sections Image: Complete Sections Image: Complete Section Section Image: Complete Sections Image: Complete Sections Image: Complete Sections Image: Complete Section Section Image: Complete Sections Image: Complete Sections Image: Complete Sections Image: Complete Section Section Image: Complete Sections Image: Complete Sections Image: Complete Sections Image: Complete Section Section Image: Complete Sections Image: Complete Sections Image: Complete Sections Image: Complete Section Section Image: Complete Sections Image: Compl										
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Image: Second									ty guard sha	ack
Total 0.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntis Deathorse Time In Pickup Trucks (5) Airport Rntis Deathorse Inclination Temp Time In Pickup Trucks (5) Airport Rntis Deathorse Inclination Temp Inclination Temp Inclination Inclina					Maintenan	ce on comple	ted sections	s of road.		
Total 0.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntis Deathorse Time In Pickup Trucks (5) Airport Rntis Deathorse Inclination Temp Time In Pickup Trucks (5) Airport Rntis Deathorse Inclination Temp Inclination Temp Inclination Inclina										
Total 0.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntts Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Deadhorse Inclination Temp Inclination Temp Inclination Temp Inclination Incli										
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Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntts Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Im Out Passenger Van (1) PBHotel Deadhorse Deadhorse Im Out Passenger Van (1) PBHotel Deadhorse Im Im Out Passenger Van (1) PBHotel Deadhorse Im Im Out Image: Passenger Van (1) PBHotel Deadhorse Im Im Out Image: Passenger Van (1) PBHotel Deadhorse Im										
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntts Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Im Out Passenger Van (1) PBHotel Deadhorse Deadhorse Im Out Passenger Van (1) PBHotel Deadhorse Im Im Out Passenger Van (1) PBHotel Deadhorse Im Im Out Image: Passenger Van (1) PBHotel Deadhorse Im Im Out Image: Passenger Van (1) PBHotel Deadhorse Im										
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Passenger Van (1) PBHotel Deadhorse Image: Construct of the second s					Data	Logger Sur	veys	Mud Su	rface Temp	o. Micro
Image: consumables Potable Hot Ice Main Wtr. Hot Ice Lake					Depth	Inclination	Temp	Time	In	Out
Image: Consumables Hot Ice Potable Main Wtr. Hot Ice Grey Lake K209 (water- Bbls) Lake K209 (cice Chips - Bbls)	Passenger Va	n (1)	PBHotel	Deadhorse						
Image: Consumables Hot Ice Potable Main Wtr. Hot Ice Grey Lake K209 (water- Bbls) Lake K209 (cice Chips - Bbls)										
Image: Consumables Hot Ice Potable Main Wtr. Hot Ice Grey Lake K209 (water- Bbls) Lake K209 (cice Chips - Bbls)										
Image: Consumables Hot Ice Potable Main Wtr. Hot Ice Grey Lake K209 (water- Bbls) Lake K209 (cice Chips - Bbls)										
Image: Consumables Hot Ice Potable Main Wtr. Hot Ice Grey Lake K209 (water- Bbls) Lake K209 (cice Chips - Bbls)										
Image: Consumables Hot Ice Potable Main Wtr. Hot Ice Grey Lake K209 (water- Bbls) Lake K209 (cice Chips - Bbls)					Tama					
Image: Second second										
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Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW										
Mud properties @ 9:00 20:00 MW						1				
Mud properties @ 9:00 20:00 MW	Dailv Mu	ld Report	Time	of dav	Chemic	als Mixed				
MW Image: Second s				-						
PV Image: consumables Potable Hot Ice Grey Main Wtr. Hot Ice Fuel Lake Lake Lake Lake K209 (ice Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) Equipment Down: Previous Balance Image: Consumables Image: Consuma										
YPImage: consumablesImage: consumablesImage: consumablesHot Ice PotableMain Wtr.Hot Ice FuelLake K209 (water- FuelLake K209 (ice (water- FuelLake K209 (ice chips - Bbls)Equipment Down:Previous BalanceImage: consumablesImage: consumables <td></td> <td>Funnel Visc.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		Funnel Visc.								
F/L Image: consumables Image: consumables Hot Ice Main Wtr. Hot Ice Lake Lake K209 (ice Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) Equipment Down: Previous Balance Image: consumables		PV								
Flowline Temp. Image: Chlorides(mg/l)/Ca++ Chlorides(mg/l)/Ca++ Image: Chlorides(mg/l)/Ca++ %KCL Image: Chlorides(mg/l)/Ca++ %KCL Image: Chlorides(mg/l)/Ca++ Hot Ice Main Wtr. Hot Ice Main Wtr. Hot Ice Main Wtr. Hot Ice Fuel Bbls) yds) Previous Balance Image: Chlorides(mg/l)/Ca++ Received Image: Chlorides(mg/l)/Ca++ Daily Usage Image: Chlorides(mg/l)/Ca++ Cumulative Usage (est.) Image: Chlorides(mg/l)/Ca++		YP								
pH										
Chlorides(mg/l)/Ca++	F									
%KCL Image: Consumables Hot Ice Main Wtr. Hot Ice Lake Lake K209 (ice K20 (ice K2										
Freeze PointImage: ConsumablesHot Ice PotableMain Wtr.Hot Ice StorageLake (water- Bbls)Lake (k209 (ice chips - Bbls)Equipment Down:Previous Balance Received Daily Usage Cumulative Usage (est.)Image: Consumable of the second sec	Chlorid									
Hot Ice PotableHot Ice GreyMain Wtr.Hot Ice StorageLake K209 (water- Bbls)Lake K209 (ice chips - yds)Previous Balance Received Daily Usage Cumulative Usage (est.)ImageImage ImageImage ImageImage ImageImage ImageImage Daily Usage Cumulative Usage (est.)Image Image<					4					
Hot Ice PotableHot Ice GreyMain Wtr.Hot Ice StorageK209 (water- Bbls)K209 (ice chips - yds)Equipment Down:Previous Balance Received32,7953,360Daily Usage Cumulative Usage (est.) </td <td></td> <td>Freeze Point</td> <td></td> <td></td> <td></td> <td>r</td> <td>Laka</td> <td>Laka</td> <td>1</td> <td></td>		Freeze Point				r	Laka	Laka	1	
Hot Ice PotableHot Ice PotableMain Wtr. Hot Ice GreyHot Ice Fuel(water- Bbls)chips - yds)Equipment Down:Previous Balance Received32,7953,360Daily Usage Cumulative Usage (est.) </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>										
ConsumablesPotableHot Ice GreyStorageFuelBbls)yds)Equipment Down:Previous Balance32,7953,360Received9,385720Daily Usage9,385720Cumulative Usage (est.)42,1804,080			Hotico		Main M/tr	Hotico				
Previous Balance 32,795 3,360 Received 9,385 720 Daily Usage 42,180 4,080	Consumables			Hot Ice Grev				-	Equipmon	t Down:
Received 9,385 720 Daily Usage Cumulative Usage (est.) 42,180 4,080			i otable	notice city	Jiorage	1 461	,		Lquipmen	C DOWIL
Daily Usage 42,180 4,080										
Cumulative Usage (est.) 42,180 4,080							5,000	120		
		sage (est.)					42.180	4.080		
		<u> </u>					,	.,		

Date: Rpt. No.	1/18/2004 7	Hot Ice Project Daily Drilling Report	Anadarka ^l Perdam Copyrator	
Operation @ (<u>)600:</u>	Ice Road Construction - Deadhorse Set-up		
<u>Accidents/Inju</u>	uries:	None Reported	Current Depth (0600) Footage This Report	1403 0
Safety:	Pre-job safety	/ meetings at the start of each tour.	u	
			Total Well Footage Cored	0
			Total Well Core Recovered	0
Environmenta	I Incidents:	None Reported	Core Recovery Percentage	0.0%

From To	Hours	IADC Code	Activity Ti	me Summar	y			
			Constuctio	n of ice road	to Hot Ice #	1 location is	in to locatio	on and
			90% comp	lete.				
			One gener	ator running a	at camp. Co	ontinue to m	love snow a	way from
				Guard shack i				-
			-				-	
			7,350 Bbls	water 150 yd	s ice chips			
			21 man cre	w, full conting	gency			
								1
				around Platfo	rm			
			4' North Sid					
			8' West Sid					
			18" averag					
			NO SNOW U	nder platform				
Total	0.00	Hours						
Rental Equipment		Location	Data	Logger Sur	veys	Mud Su	rface Temp	o. Micro
Pickup Trucks (5)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (1)	PBHotel	Deadhorse						
5 Light Plants	GBR	Hot Ice #1						
1 Security Guard Shack	Arctic Cater	Hot Ice #1						
1 Gen Set	Peak	Hot Ice #1						
4 Heater	2GBR/2Veco							
2 welding units	GBR	Hot Ice #1	_					
			Temp. -18 / -24					
			Wind					
			10 - 20					
				1				
Daily Mud Report	Time	of day	Chemic	als Mixed				
Mud properties @	9:00	20:00						
M	N							
Funnel Vis	с.							
	v							
	ΈP							
F			-					
Flowline Tem								
-	н		-					
Chlorides(mg/l)/Ca-								
%K0 Freeze Poi			-					
Fieeze Pol					Lake	Lake	1	
					K209	K209 (ice		
	Hot Ice		Main Wtr.	Hot Ice	(water-	chips -		
Consumables	Potable	Hot Ice Grey		Fuel	Bbls)	yds)	Equipment	t Down:
Previous Balance				-	42,180	4,080		
Received					7,350	150	1	
Daily Usage								
Cumulative Usage (est.)					49,530	4,230		
On Hand								

Date: 1/19/2004 Rpt. No. 8			ot Ice Proje y Drilling R		Petroleum Corporation	le i	20	
Operation @ 0600:	Ice Road Cor	nstruction - De	adhorse Se	ət-up				
Accidents/Injuries:	None Report	ed				Current De Footage TI	• • •	1403 0
Safety: Pre-job safet	y meetings at f	the start of eac	h tour.			rootage II	lis Report	U
						I Well Foot	-	0
Environmental Incidents:	None Report	ed				Well Core F Recovery P		0 0.0%
Drilling Supervisors:	C. Watson, D). Thompson, F	R. Wall, T. T	irlia	Corer	vecovery r	ercentage	0.076
From To	Hours	IADC Code		me Summar		1 location in	in to locatio	nand
			100% com pad and en one. Weat removed fr n/a Bbls wa	plete. Contin ilarging pad. her Station is om platform. ater n/a yds ic ew, full contin	ue crushing Two genera running. A e chips	/ packing / ators been t	watering sn ested and ru	ow on unning on
Total Rental Equipment	0.00	Hours Location	Dota	Logger Sur		Mud Su	rface Temp	Micro
Pickup Trucks (5)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (1)	PBHotel	Deadhorse			•			
5 Light Plants	GBR	Hot Ice #1						
1 Security Guard Shack 1 Gen Set	Arctic Cater Peak	Hot Ice #1 Hot Ice #1						
4 Heater	2GBR/2Veco							
2 welding units	GBR	Hot Ice #1						
	OBIX		Temp.					
			-20 / -25					
			Wind					
			10 - 15					
Daily Mud Banart	Timo	ofdov	Chomio	ala Mixad	I			
Daily Mud Report Mud properties @	9:00	of day 20:00	Chemic	als Mixed				
Mud properties @		20.00	1					
Funnel Viso								
P	/							
YI								
F/I								
Flowline Temp								
pł								
Chlorides(mg/l)/Ca+ %KC								
Freeze Poin								
110020101					Lake	Lake]	
					K209	K209 (ice		
	Hot Ice		Main Wtr.	Hot Ice	(water-	chips -		
Consumables	Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)	Equipment	t Down:
Previous Balance					49,530	4,230		
Received	1	1	1		8,425	0	1	
- ·· ··								
Daily Usage						4.000		
Daily Usage Cumulative Usage (est.) On Hand					57,955	4,230		

Date: Rpt. No.	1/20/2004 9			ot Ice Proje / Drilling R		Petroleum Corporation	ke ⁱ	E.	
Operation @	<u>D 0600:</u>	Ice Road Cor	struction - De	adhorse Se	et-up			20	
Accidents/In	njuries:	None Report	ed					pth (0600) his Report	1403 0
Safety:	Pre-job safety	meetings at t	he start of eac	h tour.			Footage II	iis Report	v
Faultonmor	tel Incidente:	None Deport	a d					age Cored Recovered	0
Environmen	ntal Incidents:	None Report	ea					ercentage	0 0.0%
<u>Drilling Sup</u> From	<u>ervisors:</u> To	C. Watson, D Hours	. Thompson, F IADC Code						
				Constuctio 100% com pad and er Pipeline Cr n/a Bbls wa 21 man cre Phase I We Conducted 480 Volt Tr Two Tiogas Incinerator Telephone	n of ice road i plete. Contin ilarging pad. I rossing 100% ater n/a yds ic ew, full conting eather In Field Prespud Mer ransformer Op s Operational Operational Intercom Op cess Sytem R	to Hot Ice # ue crushing Ice Pad 80% Complete. e chips gency d eting In Dea berational - Heating E erational	/ packing / & Complete adhorse. Enclosure	watering sn	
Danial Engl	Total	0.00	Hours	Data			Madio	(T	. NAL
Rental Equi Pickup Truck		Airport Rntls	Location Deadhorse	Data Depth	Logger Sur	veys Temp	Time	Irface Temp	Out
Passenger V	· · /	PBHotel	Deadhorse	Doptii	inclination				041
5 Light Plant		GBR	Hot Ice #1						
1 Security G	uard Shack	Arctic Cater	Hot Ice #1						
1 Gen Set		Peak	Hot Ice #1						
4 Heater		2GBR/2Veco							
2 Welding U	nits	GBR							
	nits	GBR	Hot Ice #1	Temp.					
2 Welding U	nits	GBR	Hot Ice #1 Hot Ice #1	-15 / -20					
2 Welding U	nits	GBR	Hot Ice #1 Hot Ice #1	-15 / -20 Wind					
2 Welding U	nits	GBR	Hot Ice #1 Hot Ice #1	-15 / -20					
2 Welding Ui 2 Man Lifts	nits Mud Report	GBR Airport Rntls	Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N		GBR Airport Rntls	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N	Mud Report roperties @ MW	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N	Mud Report roperties @ MW Funnel Visc.	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N	Mud Report roperties @ MW Funnel Visc. PV	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N	Mud Report roperties @ MW Funnel Visc. PV YP	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N Mud pr	Aud Report roperties @ MW Funnel Visc. PV YP F/L	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N Mud pr	Aud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp.	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N Mud pr	Aud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N Mud pr	Aud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N Mud pr	Aud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed				
2 Welding Ui 2 Man Lifts Daily N Mud pr	Aud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed	Lake	Lake		
2 Welding Ui 2 Man Lifts Daily N Mud pr	Aud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed	Lake K209	Lake K209 (ice		
2 Welding Ui 2 Man Lifts Daily N Mud pr	Aud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25	als Mixed Hot Ice		K209 (ice		
2 Welding Ui 2 Man Lifts Daily N Mud pr	Aud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -20 Wind 15 / 25 Chemic		K209		Equipmen	t Down:
2 Welding Ui 2 Man Lifts Daily N Mud pr	Mud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	-15 / -20 Wind 15 / 25 Chemic	Hot Ice	K209 (water-	K209 (ice chips -		t Down:
2 Welding Ui 2 Man Lifts Daily N Mud pr Chlori	Mud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	-15 / -20 Wind 15 / 25 Chemic	Hot Ice	K209 (water- Bbls)	K209 (ice chips - yds)		t Down:
2 Welding Ui 2 Man Lifts Daily N Mud pr Mud pr Chlori Previous Bal Received Daily Usage	Mud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point es lance	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	-15 / -20 Wind 15 / 25 Chemic	Hot Ice	K209 (water- Bbls) 57,955 9,500	K209 (ice chips - yds) 4,230 0		t Down:
2 Welding Ui 2 Man Lifts Daily N Mud pr Chlori Consumable Previous Bal Received	Mud Report roperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH ides(mg/l)/Ca++ %KCL Freeze Point es lance	GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	-15 / -20 Wind 15 / 25 Chemic	Hot Ice	K209 (water- Bbls) 57,955	K209 (ice chips - yds) 4,230		t Down:

Date: 1/21/2004 Rpt. No. 10			ot Ice Proje y Drilling R		Petroleum Corporation	le ¹	20	
Operation @ 0600:	Ice Road Cor	nstruction - De	adhorse Se	et-up			20	
Accidents/Injuries:	None Report	ed				Current De Footage Ti	pth (0600) his Report	
Safety: Pre-job safety	meetings at t	he start of eac	h tour.			r ootage n		v
							age Cored	
Environmental Incidents:	None Report	ed				Well Core F Recovery P		
Drilling Supervisors:	C. Watson, D). Thompson, F	R. Wall, T. T	irlia	Corer	Vecovery P	ercentage	0.0 /0
From To	Hours	IADC Code	Activity Ti	me Summar				
			100% com pad, enlarg Ice Pad 80 Pipeline Cr n/a Bbls wa 19 man ice Mtg w/ CP/ CPAI (2) to Continuing	n of ice road f plete. Contin jing pad, and % complete. rossing 100% ater 0 yds ice construction Al in KRU, rev pured platform platform rig u vater to potab	ue crushing flooding un Working or Complete. chips crew view operation up and prep	/ packing / der platform helipad. ions and co aration.	watering sn	low on
				ng fuel tanka				incation.
				now removal	on platform	•		
				with crews. arted repairs	& modificat	ions to Mud	Chiller.	
				er to Houston				
Total Rental Equipment	0.00	Hours Location	Data	Logger Sur	VOVS	Mud Su	rface Tem	o Micro
Pickup Trucks (5)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (1)	PBHotel	Deadhorse	•		•			
Light Plants (5)	GBR	Hot Ice #1						
Security Guard Shack (1)	Arctic Cater	Hot Ice #1						
Gen Set (1) Heaters (4)	Peak 2GBR/2Veco	Hot Ice #1						
Welding Units (2)	GBR GBR	Hot Ice #1						
Man Lifts (2)	Airport Rntls	Hot Ice #1	Temp.					
			-15 / -25					
			Wind					
			15 / 20					
Deily Mud Depert	Time	of dou	Chamia	ala Minad				
Daily Mud Report Mud properties @	9:00	of day 20:00	Cnemic	als Mixed				
Mud properties @		20.00	1					
Funnel Visc			1					
PV			1					
YP			-					
F/L Elowline Tomp			-					
Flowline Temp pH			-					
Chlorides(mg/l)/Ca++			1					
%KCL			1					
Freeze Point				1			1	
					Lake K209	Lake		
	Hot Ice		Main Wtr.	Hot Ice	(water-	K209 (ice chips -		
Consumables	Potable	Hot Ice Grey		Fuel	Bbls)	yds)	Equipmen	t Down:
Previous Balance					67,455	4,230		
Received					10,675	150		
Daily Usage			I				1	
						1.000		
Cumulative Usage (est.) On Hand					78,130	4,380		

Date: Rpt. No.	1/22/2004 11			ot Ice Proje / Drilling Ro			lę ρ ⁱ	2	
Operation @	0600:	Ice Road Cor	struction - De	adhorse Se	ət-up			20	
Accidents/In	juries:	None Report	ed				Current De Footage T		1403 0
Safety:	Pre-job safety	meetings at t	he start of eac	h tour.			r ootage n		U
-		-				Tota	I Well Foot	age Cored	0
Environment	tal Incidents:	None Report	ed				Well Core F		0
Drilling Supe	ruisors	C. Watson, T	Tirlio			Core F	Recovery P	ercentage	0.0%
From	To	Hours	IADC Code	Activity Ti	me Summar	v			
				Heliport an	d heliport ligh	nts are 100%	•		
					100% constr		0		
					now removal	•			orking in
					rea and accu em has been			•	or test
					ater 0 yds ice				01 1001
				18 man ice	construction	crew			
				Dura Base	80% installed	d on north s	ide		
				Telephones	s, e-mail, and	l internet op	erable.		
				4 limbturlau					
				4 light plan	vater to potat	le system t	o prepare fo	or state certi	fication
					ve majority of				neation.
				Swaco 25%	, ,	P			
					0% rigged up				
				Flowline 0%	6				
	T - 4 - 1								
Rental Equip	Total	0.00	Hours Location	Data	Logger Sur	VOVS	Mud Si	Irface Temp	Micro
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va									
	an (1)	PBHotel	Deadhorse						
Light Plants (5)	PBHotel GBR	Hot Ice #1						
Security Guar	5)	GBR Arctic Cater	Hot Ice #1 Hot Ice #1						
Security Guar Gen Set (1)	5)	GBR Arctic Cater Peak	Hot Ice #1 Hot Ice #1 Hot Ice #1						
Security Guar Gen Set (1) Heaters (4)	5) rd Shack (1)	GBR Arctic Cater Peak 2GBR/2Veco	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1						
Security Guar Gen Set (1) Heaters (4) Welding Units	5) rd Shack (1)	GBR Arctic Cater Peak 2GBR/2Veco GBR	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp					
Security Guar Gen Set (1) Heaters (4)	5) rd Shack (1)	GBR Arctic Cater Peak 2GBR/2Veco	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1						
Security Guar Gen Set (1) Heaters (4) Welding Units	5) rd Shack (1)	GBR Arctic Cater Peak 2GBR/2Veco GBR	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. -15 / -25 Wind					
Security Guar Gen Set (1) Heaters (4) Welding Units	5) rd Shack (1)	GBR Arctic Cater Peak 2GBR/2Veco GBR	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -25					
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2)	5) rd Shack (1) 6 (2)	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -25 Wind 15 / 20					
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mo	5) rd Shack (1) 6 (2) ud Report	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls Time	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mo	5) rd Shack (1) s (2) ud Report operties @	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mo	5) rd Shack (1) s (2) ud Report operties @ MW	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mo	5) rd Shack (1) s (2) ud Report operties @	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mo	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc.	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mu Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mu Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp.	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mi Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mi Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mi Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed				
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mi Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20	als Mixed	Lake	Lake		
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mi Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20 Chemic		K209	K209 (ice		
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mi Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00 9:00 Hot Ice	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	-15 / -25 Wind 15 / 20 Chemic	Hot Ice	K209 (water-	K209 (ice chips -		
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily M Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day	-15 / -25 Wind 15 / 20 Chemic		K209 (water- Bbls)	K209 (ice chips - yds)	Equipmen	t Down:
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily M Mud pro Frevious Bala	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00 9:00 Hot Ice	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	-15 / -25 Wind 15 / 20 Chemic	Hot Ice	K209 (water- Bbls) 79,380	K209 (ice chips -		t Down:
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily M Mud pro	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00 9:00 Hot Ice	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	-15 / -25 Wind 15 / 20 Chemic	Hot Ice	K209 (water- Bbls)	K209 (ice chips - yds) 4,380		t Down:
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily Mi Mud pro Frevious Bala Received	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00 9:00 Hot Ice	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	-15 / -25 Wind 15 / 20 Chemic	Hot Ice	K209 (water- Bbls) 79,380	K209 (ice chips - yds) 4,380		<u>t Down:</u>
Security Guar Gen Set (1) Heaters (4) Welding Units Man Lifts (2) Daily M Mud pro Mud pro Chlorid Previous Bala Received Daily Usage	5) rd Shack (1) s (2) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Arctic Cater Peak 2GBR/2Veco GBR Airport Rntls 9:00 9:00 Hot Ice	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	-15 / -25 Wind 15 / 20 Chemic	Hot Ice	K209 (water- Bbls) 79,380 n/a	K209 (ice chips - yds) 4,380 0		<u>t Down:</u>

1/23/2004 Hot Ice Project Date: nadaı Rpt. No. 12 **Daily Drilling Report** Operation @ 0600: Lift and set Swaco Vac unit None Reported Current Depth (0600) 1403 Accidents/Injuries: **Footage This Report** 0 Safety: Pre-job safety meetings at the start of each tour. **Total Well Footage Cored** 0 **Total Well Core Recovered** Environmental Incidents: None Reported 0 **Core Recovery Percentage** 0.0% **Drilling Supervisors:** C. Watson, T. Tirlia From Hours IADC Code Activity Time Summary То Pressured up potable water system and hyperchlorinated the system and flushed same. Performed on-site test of the treated water from Kuparuk - OK. Acquire and delivered potable water sample to Deadhorse for coliform analysis. Completed laying Dura-base mats on North Side & lay liner 50% complete of Dura-base mats on West Side Crane arrived @ Guard Shack at 1230 hrs and under power lines at 1330 hrs. Crane on-site at 1400 hrs. 15:00 17.00 2 00 Safety Meeting. Rig-up crane and install North ladder on camp 17:00 18:30 1.50 Installed DrillCool 10' Repair Container 18:30 19:00 0.50 Set Lab Units 1 & 2. 19:00 20:00 1.00 Safety Meeting with Night Crew. 20:00 22:30 2.50 Set Lab Units 3 & 4 and set in Refer Unit. Refuel crane & S/D. 22:30 24:00 1.50 Removing snow from walk ways & re-route heat duct to Swaco unit Place 8 cones each for North and South Muster Points Swaco 40% rigged up / DrillCool 30% Rigged up / Flowline 15% Total 9.00 Hours **Rental Equipment** Location **Data Logger Surveys** Mud Surface Temp. Micro Airport Rntls Pickup Trucks (5) Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Light Plants (5) GBR Hot Ice #1 Security Guard Shack (1) Arctic Cater Hot Ice #1 Man Lifts (2) Airport Rntls Hot Ice #1 Heaters (4) 2GBR/1Veco Hot Ice #1 Welding Units (2) GBR Hot Ice #1 Temp. -20 / -30 Wind 5/15 Daily Mud Report Time of day Chemicals Mixed 9.00 20.00 Mud properties @ мw **Funnel Visc**

P٧ YP F/L Flowline Temp pН Chlorides(mg/l)/Ca++ %KCL **Freeze Point** Lake Lake K209 K209 (ice Hot Ice Hot Ice (waterchips -Main Wtr. Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) **Equipment Down:** Previous Balance 79,380 4,380 Received n/a 0 Daily Usage Cumulative Usage (est.) #VALUE! 4,380 On Hand

Date: Rpt. No.	1/24/2004 13			ot Ice Proje / Drilling R		Anadar Petroleum Corporation	кр ¹		
Operation @	0600:	Offload Maue	er X-ray equipr	nent				20	
Accidents/In	juries:	None Report	ed				Current De Footage T		1403 0
Safety:	Pre-job safety	meetings at t	he start of eac	h tour.			i ootage ii	ins Report	
							I Well Foot	-	0
Environment	tal Incidents:	None Report	ed				Well Core F	Recovered ercentage	0 0.0%
Drilling Supe	ervisors:	C. Watson, T	. Tirlia			00101	(ccovery r	ercentage	0.078
From	То	Hours	IADC Code		me Summar				
0000	0600	6.00		-	snow and ice		ways. Finis	h laying out	
0600	1800	12.00			nuster points. Swaco Vac ι		and reset h	eaters on de	eck to
					neat efficiency				
					o rig up DrillC				
					and various c eat up and ch		<i>,</i> 11		oment.
1800	2400	6.00			operations. C	•			move ice
					o tanks. Offlo			•	
					b heat working	5	•		
					bass w/966 to				
				-	eceived a call		0		
				-	d not pass ins nust be perfo	•			
					for coliform a		potable wa	ter bystern t	ampie
						,			
				Swaco 60%	6 rigged up /	DrillCool 4	0% Rigged	up / Flowli	ne 30%
Bontol Equin	Total	24.00	Hours Location	Doto	Logger Sur		Mud Si	Irface Temp	Mioro
Rental Equip		Airport Rntls	Deadhorse	Depth	Logger Sur	Temp	Time	In	Out
Passenger Va	· · /	PBHotel	Deadhorse						
Light Plants (5)	GBR	Hot Ice #1						
Security Guar	rd Shack (1)		Hot Ice #1						<u> </u>
Man Lifts (2) Heaters (4)		1.1.1	Hot Ice #1						
Welding Units	s (2)	2GBR/1Veco GBR	Hot Ice #1						<u> </u>
Weiding Office	5 (2)	ODIX		Temp.					I
				-10 / -25					
				Wind					
				15 / 25					
Daily M	ud Report	Time	of day	Chemic	als Mixed				
-	operties @	9:00	20:00	Chemic					
	MW			1					
	Funnel Visc.								
	PV								
	YP F/L			-					
	∟/۲ .Flowline Temp								
	pH								
Chlorid	des(mg/l)/Ca++								
	%KCL								
	Freeze Point					Lake	Lake	1	
						K209	K209 (ice		
		Hot Ice		Main Wtr.	Hot Ice	(water-	chips -		
Consumable		Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)	Equipmen	<u>t Down:</u>
Previous Bala	ance					79,380	4,380		
Received Daily Usage						-	0		
, ,	sage (est.)					79,380	4,380		
Cumulative U On Hand	sage (est.)					79,380	4,380		

Date: 1/25/2004 Rpt. No. 14 Hot Ice Project Daily Drilling Report

R/U Swaco, DrillCool & Flowline; heat drilling work area

∆nadar

- Factor

1403

0

0

0

0.0%

Current Depth (0600)

Footage This Report

Operation @ 0600:

Accidents/Injuries: None Reported

 Safety:
 Pre-job safety meetings at the start of each tour.
 Total Well Footage Cored

 Robert Achenbach was the weekly winter of the ICE program.
 Total Well Core Recovered

 Environmental Incidents:
 None Reported
 Total Well Core Recovered

Drilling Supe	ervisors.	C. Watson, T	Tirlia			Core i	Recovery P	ercentage	0.070
From	To	Hours	IADC Code	Activity Ti	me Summar	v			
0000	0600	6.00			ping and rem		om Swaco ta	ank hottom	Clean
0000	0000	0.00			n. Ready to t	0			
					t / check equ		•		arng
0600	1800	12.00			ane operation	•			uinmont
0000	1000	12.00			Il's mud prod				
				-	o r/u Swaco, I			•	-
					lywood, cran				
1000	0.400	0.00		•	asher, and va		0		
1800	2400	6.00			check tools		•		
					con 3"OD x 4		0 0	,	
					I/26. Continu	e to neat dr	ili area and	applying nea	at to gas
				degasser to					
					rinated the po		•		-
					on-site test o	•		•	
				Acquired a	nd delivered	potable wat	er sample to	DH for coll	form anal.
				Swaco 75%	6 rigged up /	DrillCool 6	0% Rigged	up / Flowli	ne 50%
	Total	24.00	Hours		55P				
Rental Equip	oment		Location	Data	Logger Sur	veys	Mud Su	rface Temp	. Micro
Pickup Trucks	s (5)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse	•					
Light Plants (5)	GBR	Hot Ice #1						
Security Guar	rd Shack (1)	Arctic Cater	Hot Ice #1						
Man Lifts (2)		Airport Rntls	Hot Ice #1						
Heaters (4)		2GBR/2Veco	Hot Ice #1						
Welding Units	s (2)	GBR	Hot Ice #1						
				Temp.					
				-10 / -22					
				Wind					
				10 / 20					
						I			
	ud Report		of day	Chemic	als Mixed				
Mud pro	operties @	9:00	20:00						
	MW								
	Funnel Visc.								
	PV	-		-					
	YP			-					
_	F/L			-					
- F	Flowline Temp.	·		-					
.	pH			-					
Chlorid	des(mg/l)/Ca++			-					
	%KCL			-					
	Freeze Point					Laka	Laka	1	
						Lake K209	Lake K209 (ice		
		Hot Ice		Moin M/Ar	Hot Ice	(water-	chips -		
Consumable	e	Potable	Hot Ice Grey	Main Wtr. Storage	Fuel	(water- Bbls)	yds)	Equipment	Down:
Previous Bala			. lot lot orey	otoraye	1 401	79,380	4,380		DOWII.
Received							-4,500		
Daily Usage			1						
Cumulative U	sage (est.)					79,380	4,380		
On Hand			1			. 5,000	1,000		
		1	1	1				1	

Comments: Released crane for demob back to Deadhorse at 6PM 1/25/04. Notify KCC Electrician at 7PM (voice mail).

Date: 1/26/2004 Hot Ice Project Anadar Rpt. No. 15 **Daily Drilling Report** Continue to rig up, check and repair equipment & heat rig Operation @ 0600: Accidents/Injuries: None Reported Current Depth (0600) 1403 **Footage This Report** 0 Safety: Pre-job safety meetings at the start of each tour. **Total Well Footage Cored** 0 Environmental Incidents: 2 gals of sewage on ice pad at Guard Shack **Total Well Core Recovered** 0 **Core Recovery Percentage** 0.0% Drilling Supervisors: C. Watson, T. Tirlia From То Hours IADC Code Activity Time Summary Continue to heat rig and inspect / check subs repair as required 0000 0600 6 00 Т

0000	0600	6.00		Continue to	heat rig and	inspect / cl	neck subs, r	epair as rec	quired.
				Take on m	ud for Swaco	pill take for	drillina out.	Work on th	nawing
					er. Disassen				
					overed lines I				
				order fitting		laa wiong i	itting going		
0600	1800	12.00			laying out Di	ira basa an	woot oldo c	nd install 2	50' of 10"
0000	1000	12.00							
					along North				
				•	d escape line				
					or lines. Pick				
					mpleted modi				
					tank. Took			ud and trea	ited same.
					o apply heat t				
1800	2400	6.00		Work on Sv	waco Vac sys	stem. Conti	nue to heat	Gas Buster	-
				Continue to	inspect tool	s and prepa	re coring ec	quipment.	
				Noble 60%	rigged up (in	stalled 2 of	6 cameras)	-	
					6 rigged up /				line 90%
	Total	24.00	Hours		00 1		00	•	
Rental Equip			Location	Data	Logger Sur	vevs	Mud Su	rface Temp	o. Micro
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse				In the Pits	@2000 hrs	70.0
Light Plants (GBR	Hot Ice #1						
Security Guar		Arctic Cater	Hot Ice #1						
Man Lifts (2)		Airport Rntls	Hot Ice #1						
Heaters (4)		2GBR/2Veco							
Welding Units	(2)	GBR							
	5 (Z)	GBR	Hot Ice #1						
weiding Onits	/(-/	-		Taman					
	(_)	-		Temp.					
				-5 / -15					
	(=)			-5 / -15 Wind					
				-5 / -15					
				-5 / -15 Wind 10 / 15					
Daily Mu	ud Report		of day	-5 / -15 Wind 10 / 15 Chemic	als Mixed				
Daily Mu			of day 20:00	-5 / -15 Wind 10 / 15 Chemic	als Mixed 75 bbls of 9.1			d was ariate	ed in pits
Daily Mu	ud Report	Time	20:00 9.3	-5 / -15 Wind 10 / 15 Chemic Received 2			ro mud, mu buckets	d was ariate	ed in pits
Daily Mu	ud Report	Time	20:00	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3			d was ariate	ed in pits
Daily Mu	ud Report operties @ MW	Time	20:00 9.3	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3			d was ariate	ed in pits
Daily Mu	ud Report operties @ MW Funnel Visc.	Time	20:00 9.3 37.0	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3			d was ariate	ed in pits
Daily Mu	ud Report operties @ MW Funnel Visc. PV	Time	20:00 9.3 37.0 4.0	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3			d was ariate	ed in pits
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP	Time	20:00 9.3 37.0 4.0 4.0	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3			d was ariate	ed in pits
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp.	9:00	20:00 9.3 37.0 4.0 21.0 n/a	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3			d was ariate	ed in pits
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH	9:00	20:00 9.3 37.0 4.0 4.0 21.0 n/a 7.0	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3			d was ariate	ed in pits
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++	9:00	20:00 9.3 37.0 4.0 21.0 n/a	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3			d was ariate	ed in pits
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	9:00	20:00 9.3 37.0 4.0 4.0 21.0 n/a 7.0	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3			d was ariate	ed in pits
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++	9:00	20:00 9.3 37.0 4.0 4.0 21.0 n/a 7.0	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3	8	buckets	d was ariate	ed in pits
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	9:00	20:00 9.3 37.0 4.0 4.0 21.0 n/a 7.0	-5 / -15 Wind 10 / 15 Chemic Received 2	75 bbls of 9.3	8 Lake	buckets Lake	d was ariate	ed in pits
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	9:00	20:00 9.3 37.0 4.0 4.0 21.0 n/a 7.0	-5 / -15 Wind 10 / 15 Chemic Received 2 Defoamer 2	75 bbls of 9.3	8 Lake K209	buckets Lake K209 (ice	d was ariate	ed in pits
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.3 37.0 4.0 21.0 n/a 7.0 68000.0	-5 / -15 Wind 10 / 15 Chemic Received 2 Defoamer 2 Main Wtr.	75 bbls of 9.3 X, 5 gal bkts Hot Ice	8 Lake K209 (water-	Lake K209 (ice chips -		
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.3 37.0 4.0 4.0 21.0 n/a 7.0	-5 / -15 Wind 10 / 15 Chemic Received 2 Defoamer 2	75 bbls of 9.3	8 Lake K209 (water- Bbis)	Lake K209 (ice chips - yds)	d was ariate	
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.3 37.0 4.0 21.0 n/a 7.0 68000.0	-5 / -15 Wind 10 / 15 Chemic Received 2 Defoamer 2 Main Wtr.	75 bbls of 9.3 X, 5 gal bkts Hot Ice	8 Lake K209 (water-	Lake K209 (ice chips - yds) 4,380		
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.3 37.0 4.0 21.0 n/a 7.0 68000.0	-5 / -15 Wind 10 / 15 Chemic Received 2 Defoamer 2 Main Wtr.	75 bbls of 9.3 X, 5 gal bkts Hot Ice	8 Lake K209 (water- Bbis)	Lake K209 (ice chips - yds)		
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s	9:00	20:00 9.3 37.0 4.0 21.0 n/a 7.0 68000.0	-5 / -15 Wind 10 / 15 Chemic Received 2 Defoamer 2 Main Wtr.	75 bbls of 9.3 X, 5 gal bkts Hot Ice	8 Lake K209 (water- Bbis) 79,380	Lake K209 (ice chips - yds) 4,380 0		
Daily Mu Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s	9:00	20:00 9.3 37.0 4.0 21.0 n/a 7.0 68000.0	-5 / -15 Wind 10 / 15 Chemic Received 2 Defoamer 2 Main Wtr.	75 bbls of 9.3 X, 5 gal bkts Hot Ice	8 Lake K209 (water- Bbis)	Lake K209 (ice chips - yds) 4,380		

<u>Comments:</u> Expect to hear results today of our potable water samples sent to NTL.

Date: Rpt. No.	1/27/2004 16			ot Ice Proje y Drilling R		Anadar Petroleum Corporation	lφ ⁱ	2	
Operation @	<u>0600:</u>	Trip out of th	e hole to test	BOP's with	State Man.			25	
Accidents/In	<u>ijuries:</u>	None Report	əd					pth (0600) his Report	1403
Safety:	Pre-job safety	meetings at t	he start of eac	h tour.			rootage i	his Report	0
								age Cored	0
Environmen	tal Incidents:	No reportable	e incidents.					Recovered ercentage	0 0.0%
<u>Drilling Supe</u> From	<u>ervisors:</u> To	C. Watson, R Hours	. Wall IADC Code	Activity Ti	me Summar				
0000	0600	6.00		Continue to Continue to	o heat rig and o heat gas bu Pump water	l inspect / cł ster. Potab	le water sys	stem leaked	
0600	1800 2400	12.00 6.00		Commission Installed H. Rig up pipe on board. Trip in the Set up mor Rod thread Noble 1009	as buster. Dr n rig @ 1700 andrails arou e spinner for r Swaco Vac s hole, cleaned e heater hos s all require o % (5 cameras Mods 100% /) Hrs.to drill nd Heater o making conr system up a l out ice @ ² es in the cel descaling. V s) / AQMS 9	out the ice n D/S Hous nections. Ta nd running. 188', then c llar. 'ery rusty si 0% / DrillCo	in the Bop's. se. ske potable v clear down to nce last sea pol 90% / Sw	vater 9 900' MD son.
	Total	24.00	Hours						
Rental Equip	oment		Location	Data	Logger Sur	veys	Mud Su	irface Temp	. Micro
Pickup Truck	· · /	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse				In the Pits	@2000 hrs	70.0
Light Plants (GBR	Hot Ice #1						
Security Gua	rd Shack (1)	Arctic Cater	Hot Ice #1						
Man Lifts (2)		Airport Rntls	Hot Ice #1						
Heaters (4)		2GBR/2Veco							
Welding Units	s (2)	GBR	Hot Ice #1	_					
				Temp.					
					below F.				
				Wind					
				10 / 15	mph/ West				
Doily M	ud Report	Timo	of day	Chamia	als Mixed				
-	operties @	9:00	20:00	no chemica					
	MW	9.00	<u> </u>		ais mixeu.				
	Funnel Visc.		39.0	-					
	PV		5.0	-					
	YP			-					
			40						
1			4.0 20.0						
	F/L		20.0	-					
	F/L Flowline Temp.		20.0 62.0	-					
	F/L		20.0	-					
	F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL		20.0 62.0 7.0 68000.0	-					
	F/L Flowline Temp. pH des(mg/l)/Ca++		20.0 62.0 7.0	-		Lake	Lake]	
	F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL		20.0 62.0 7.0 68000.0			K209	K209 (ice]	
Chlori	F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	Hot Ice	20.0 62.0 7.0 68000.0 8 deg F	Main Wtr.	Hot Ice	K209 (water-	K209 (ice chips -		
Chlori	F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	Potable	20.0 62.0 7.0 68000.0 8 deg F Hot Ice Grey	Storage	Fuel	K209 (water- Bbls)	K209 (ice chips - yds)	Equipment	: Down:
Chlori Consumable Previous Bala	F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	Potable 4,500	20.0 62.0 7.0 68000.0 8 deg F Hot Ice Grey 4,500	Storage 0	Fuel 9,547	K209 (water-	K209 (ice chips - yds) 4,380	Equipment	: Down:
Chlori	F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	Potable	20.0 62.0 7.0 68000.0 8 deg F Hot Ice Grey 4,500 (4,000)	Storage 0	Fuel 9,547 -	K209 (water- Bbls)	K209 (ice chips - yds)	Equipment	: Down:

0

0

9,310

500

1,124

8,423

79,380

4,380

<u>Comments:</u> Passed water test. Potable water system up and running. Ran 2 more heat ducts, off heater on top of pit system.

4,400

22,500 7,700

Daily Usage

On Hand

Cumulative Usage (est.)

Date: Rpt. No.	1/28/2004 17			ot Ice Proje y Drilling R			ke ⁱ	2	
Operation @	0600:	Drilling casin	ıg equipment			r ei deun onpu sion		20	
Accidents/In	juries:	None Report	ed				Current De Footage Tl		1403 0
Safety:	Pre-job safety	meetings at t	he start of eac	ch tour.			rootage II	nis Report	U
		Ū				Tota	I Well Foot	age Cored	0
Environment	tal Incidents:	No reportable	e incidents.				Well Core F	Recovered ercentage	0 0.0%
Drilling Supe From	ervisors: To	C. Watson, R Hours	. Wall IADC Code	Activity Ti	me Summar		vecovery r	ercentage	0.076
0000	0100	1.00		Set up two	more blower	hoses in ce	ellar.		
0100	0200	1.00		Trip in to 12	202' MD. all p	pipe out of the	ne derrick		
0200	0300	1.00			foot rods out				
0300	0400	1.00			nt @ 1304' MI	D. Circulate	cement out	. 70Gpm, 10	00Rpm.
0400	0600	2.00		Trip out of					
0600	0700	1.00		•	oor and set u	•			
0700	1800	11.00			tack with Stat		•		
				0	e,blinds and ir		,	21 I	,choke
					pe rams, swa				
1800	2000	2.00		0	t to 1500 psi f			,	
2000	2200	2.00			afety valve. U				
					st pump. Visu		•		n.
2200	2400	2.00		Rig down to	est pump, set	wear bush	ing. Blow do	own kelly.	
	Total	24.00	Hours						
Rental Equip			Location		Logger Sur			Irface Temp	
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse				In the Pits	@2000 hrs	70.0
Light Plants (,	GBR Anatia Octor	Hot Ice #1						
Security Guar	rd Shack (1)	Arctic Cater	Hot Ice #1						
Man Lifts (1)		Airport Rntls	Hot Ice #1						
Heaters (4)			Hot Ice #1						
Wolding Unite	(2)		Listias #1						
Welding Units	s (2)	GBR	Hot Ice #1	Tama					
Welding Units	s (2)		Hot Ice #1	Temp.	helow F				
Welding Units	s (2)		Hot Ice #1	10 to 30	below F.				
Welding Units	s (2)		Hot Ice #1	10 to 30 Wind					
Welding Units	\$ (2)		Hot Ice #1	10 to 30 Wind	below F. mph/ West				
		GBR		10 to 30 Wind 5 / 10	mph/ West		<u> </u>		
Daily M	ud Report	GBR Time	of day	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed		<u> </u>		
Daily M	ud Report	GBR	of day 20:00	10 to 30 Wind 5 / 10	mph/ West als Mixed				<u> </u>
Daily M	ud Report operties @ MW	GBR Time	of day 20:00 9.3	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed]
Daily M	ud Report operties @ MW Funnel Visc.	GBR Time 9:00	of day 20:00 9.3 39.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed]
Daily M	ud Report operties @ MW Funnel Visc. PV	GBR Time 9:00	of day 20:00 9.3 39.0 5.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed				
Daily M	ud Report operties @ MW Funnel Visc. PV YP	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed				<u> </u>
Daily M	ud Report operties @ MW Funnel Visc. PV YP F/L	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed				
Daily M	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp.	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed				
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed				
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp.	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed				
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed				
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed	Lake	Lake		
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed	Lake K209	Lake K209 (ice		
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0	10 to 30 Wind 5 / 10 Chemic	mph/ West als Mixed				
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0	10 to 30 Wind 5 / 10 Chemic no chemica Main Wtr.	mph/ West als Mixed als mixed.	K209	K209 (ice	Equipment	t Down:
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Time 9:00	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F	10 to 30 Wind 5 / 10 Chemic no chemica Main Wtr.	mph/ West als Mixed als mixed. Hot Ice Fuel	K209 (water-	K209 (ice chips -		<u>t Down:</u>
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Time 9:00 Hot Ice Potable	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F	10 to 30 Wind 5 / 10 Chemic no chemica Main Wtr. Storage 9,310	mph/ West als Mixed als mixed. Hot Ice Fuel 8,423	K209 (water- Bbls)	K209 (ice chips - yds)		<u>t Down:</u>
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Time 9:00 Hot Ice Potable 7,700	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F Hot Ice Grey 4,500	10 to 30 Wind 5 / 10 Chemic no chemica Main Wtr. Storage 9,310	mph/ West als Mixed als mixed. Hot Ice Fuel 8,423 -	K209 (water- Bbls)	K209 (ice chips - yds) 4,380		<u>t Down:</u>
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Time 9:00 Hot Ice Potable 7,700 -	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F Hot Ice Grey 4,500 (4,000)	10 to 30 Wind 5 / 10 Chemic no chemica Main Wtr. Storage 9,310 0 234 0	mph/ West als Mixed als mixed. Hot Ice Fuel 8,423 - 1,680	K209 (water- Bbls)	K209 (ice chips - yds) 4,380		<u>t Down:</u>
Daily Mi Mud pro	ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	GBR Time 9:00 Hot Ice Potable 7,700 - 3,948	of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F Hot Ice Grey 4,500 (4,000)	10 to 30 Wind 5 / 10 Chemic no chemica Main Wtr. Storage 9,310 0 234	mph/ West als Mixed als mixed. Hot Ice Fuel 8,423 - 1,680	K209 (water- Bbls) 79,380	K209 (ice chips - yds) 4,380 0		<u>t Down:</u>

<u>Comments:</u> Requested variance from State to drill out using hand held gas detectors versus the Radoil system. Still needs calibrating.

Date: Rpt. No.	1/29/2004 18			ot Ice Proje y Drilling R		Petroleum Corporation	ke ⁱ	20	
Operation @ 0600:		Drilling casing equipment							
Accidents/Injuries:		None Report	ed				Current De	pth (0600)	1403
		maatinga at t		Footage This Report 0					
<u>Safety:</u>	Pre-job safety	meetings at t	ne start of eac	ch tour.		Tota	I Well Foot	age Cored	0
Environmenta	al Incidents:		pill. Estimated	-			Well Core F		0
Drilling Suns	m de exer		el line. All clear	ned up.		Core I	Recovery P	ercentage	0.0%
Drilling Supervisors: C. Watson, R From To Hours			IADC Code	Activity Ti	me Summar	v			
0000	0200	2.00			Il bit, put new		otating hear	h	
0200	0300	1.00			g head in plac		-		
0300	0400	1.00			t in. Hit anoth				line froze
					ange hoses o			·· F · F	
0400	0430	0.50			hole reaming		@ 50',		
0430	0500	0.50		Mud lines i	n cellar by re	turn tank an	nd vortex pu	mp all froze	up. Trip
0500	0700	2.00		Take all the	e lines apart a	and thaw wi	th weed bur	mer, and hea	at duct
0700	1100	4.00		Thawed lin	es out and co	onstructed t	he wind wal	I. Very good	addition.
1100	1430	3.50		Trip in the	hole to 1304'.	tag cemen	t.		
1430	1500	0.50		Drill cemer	nt to 1312'.				
1500	1530	0.50		Drill float c	ollar to 1314'.				
1530	1700	1.50		Drill cemer	nt and shoe @) 1358'., Cle	ean hole dov	wn to 1398'	
1700	2100	4.00		circulate ho	ole clean,and	change out	t mud.		
2100	2400	3.00		clean pits a	and use Peak	200 BBI va	ic truck to ei	mpty all totes	S.
				Shipped 12	20 BBIs of mu	id to pad 3 f	for disposal.		
				94% mud,	5% diesel,1%	pea gravel.			
	Total	24.00	Hours						
Rental Equip		-	Location	Data	Logger Sur	veys	Mud Su	rface Temp	. Micro
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (1)									
		PBHotel	Deadhorse				In the Pits	@2000 hrs	70.0
Light Plants (5	5)	GBR	Hot Ice #1				In the Pits	@2000 hrs	70.0
Light Plants (5 Security Guar	5)	GBR Arctic Cater	Hot Ice #1 Hot Ice #1				In the Pits	@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1)	5)	GBR Arctic Cater Airport Rntls	Hot Ice #1 Hot Ice #1 Hot Ice #1				In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4)	5) d Shack (1)	GBR Arctic Cater Airport Rntls 2GBR/2Veco	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1				In the Pits	@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1)	5) d Shack (1)	GBR Arctic Cater Airport Rntls	Hot Ice #1 Hot Ice #1 Hot Ice #1				In the Pits	@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4)	5) d Shack (1)	GBR Arctic Cater Airport Rntls 2GBR/2Veco	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp.			In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4)	5) d Shack (1)	GBR Arctic Cater Airport Rntls 2GBR/2Veco	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	10 to24	below F.		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4)	5) d Shack (1)	GBR Arctic Cater Airport Rntls 2GBR/2Veco	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	10 to24 Wind			In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4)	5) d Shack (1)	GBR Arctic Cater Airport Rntls 2GBR/2Veco	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	10 to24 Wind	below F.		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units	5) d Shack (1) (2)	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	10 to24 Wind 10 / 15	mph/ West		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guard Man Lifts (1) Heaters (4) Welding Units	d Shack (1) (2) ud Report	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR Time	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guard Man Lifts (1) Heaters (4) Welding Units	d Shack (1) (2) ud Report perties @	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	10 to24 Wind 10 / 15	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guard Man Lifts (1) Heaters (4) Welding Units	i) d Shack (1) (2) id Report perties @ MW	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR Time 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.3	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guard Man Lifts (1) Heaters (4) Welding Units	d Shack (1) (2) ud Report perties @ MW Funnel Visc.	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR GBR	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.3 39.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guard Man Lifts (1) Heaters (4) Welding Units	i) d Shack (1) (2) ud Report perties @ MW Funnel Visc. PV	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR GBR	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.3 39.0 5.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guard Man Lifts (1) Heaters (4) Welding Units	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR GBR	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00 9.3 39.0 5.0 4.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR GBR	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00 9.3 39.0 5.0 4.0 20.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed		In the Pits (@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed			@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed	Lake	Lake	@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0	10 to24 Wind 10 / 15 Chemic	mph/ West als Mixed als mixed.	K209	Lake K209 (ice	@2000 hrs	70.0
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00 9:00 Hot Ice	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Z0:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F	10 to24 Wind 10 / 15 Chemic no chemica Main Wtr.	mph/ West als Mixed als mixed. Hot Ice	K209 (water-	Lake K209 (ice chips -		
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00 9:00 Hot Ice Potable	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F Hot Ice Grey	10 to24 Wind 10 / 15 Chemic no chemica Main Wtr. Storage	mph/ West als Mixed als mixed. Hot Ice Fuel	K209 (water- Bbls)	Lake K209 (ice chips - yds)	@2000 hrs	
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00 9:00 Hot Ice Potable 4,141	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Z0:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F	10 to24 Wind 10 / 15 Chemic no chemica Main Wtr. Storage 9,075	mph/ West als Mixed als mixed. Hot Ice Fuel 6,743	K209 (water-	Lake K209 (ice chips - yds) 4,380		
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00 9:00 Hot Ice Potable 4,141 2,671	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F Hot Ice Grey 2,058	10 to24 Wind 10 / 15 Chemic no chemica Main Wtr. Storage 9,075 0	Hot Ice Fuel 6,743 4,000	K209 (water- Bbls)	Lake K209 (ice chips - yds)		
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro F Chlorid Consumables Previous Bala Received Daily Usage	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00 9:00 Hot Ice Potable 4,141 2,671 1,470	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F Hot Ice Grey	10 to24 Wind 10 / 15 Chemic no chemica Main Wtr. Storage 9,075 0 709	Hot Ice Fuel 6,743 4,000 1,967	K209 (water- Bbls) 79,380	Lake K209 (ice chips - yds) 4,380 0		
Light Plants (5 Security Guar Man Lifts (1) Heaters (4) Welding Units Daily Mu Mud pro	i) d Shack (1) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	GBR Arctic Cater Airport Rntls 2GBR/2Veco GBR 9:00 9:00 Hot Ice Potable 4,141 2,671	Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 20:00 9.3 39.0 5.0 4.0 20.0 62.0 7.0 68000.0 14 deg F Hot Ice Grey 2,058	10 to24 Wind 10 / 15 Chemic no chemica Main Wtr. Storage 9,075 0	Hot Ice Fuel 6,743 4,000 1,967	K209 (water- Bbls)	Lake K209 (ice chips - yds) 4,380		

Date: 1/30/2004 Rpt. No. 19 Hot Ice Project Daily Drilling Report



1413

10

Operation @ 0600:Coring

Accidents/Injuries: None Reported

Safety: Core Retrieval & Handling Procedures

Environmental Incidents:

Total Well Footage Cored10Total Well Core Recovered10Core Recovery Percentage100.0%

Current Depth 24:00 hrs

Footage This Report

Anadarko

						Core i	Recovery P	oroontago	100.070
Drilling Supe		C. Watson, R			-				
From	То	Hours	IADC Code						
0000	0100	1.00			ning out totes				
0100 0200 1.00				Circulate new mud around, clean hole out to TD. 1403'					
0200 0400 2.00				Pull back into casing, chill mud down from 70* F to 50* F					
0400	0530	1.50				hiller, 40 Gpm down hole. 50* F to 43* F			
0530	06:00	0.50			afety Meeting				
0600	0800	2.00		chill mud down to 26* F					
0800	1000	2.00		trip out with tricone bit.					
1000	1200	2.00		Out of Hole pick up core assembly					
12:00	14:00	2.00		тін					
14:00	1730	3.50		Circulate & Calibrate Meters & Instrumentation					
17:30	18:00	0.50		Pre-tour Sa	afety Meeting				
18:00	21:00	3.00			flowline loop		aravel & se	diment	
21:00	22:30	1.50			Calibrate Me				
22:30	2300	0.50			incections re				
2300	2400	1.00			Spm - 150 Rp			13)	
	Total	24.00	Hours						
Rental Equip			Location		Logger Sur			Irface Temp	
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse				In the Pits	@2000 hrs	27.0
Light Plants (/	GBR	Hot Ice #1						
Security Guar	rd Shack (1)	Arctic Cater	Hot Ice #1						
Man Lifts (1)		Airport Rntls	Hot Ice #1						
Heaters (4)		2GBR/2Veco	Hot Ice #1						
				Temp.					
					below F.				
				Wind					
				5 / 10	mph/ Northw	/est			
Daily M	ud Report	Timo	of day	Chomic	als Mixed	l			
-	operties @	9:00	20:00	Chemic					
	MW		9.3						
	Funnel Visc.		38.0	-					
	PV		5.0	-					
	YP		8.0						
F/L			19.0						
			25.0						
Flowline Temp.			7.0	-					
pH Chlorides(mg/l)/Ca++			89000.0	-					
Chlorides(mg/l)/Ca++ %KCL			89000.0						
Freeze Point			14.0	1					
		i				Lake	Lake		
						K209	K209 (ice		
		Hot Ice		Main Wtr.	Hot Ice	K209 (water-	K209 (ice chips -		
Consumable		Potable	Hot Ice Grey	Storage	Fuel	(water- Bbls)	chips - yds)	<u>Equipment</u>	t Down:
Previous Bala			3,528	Storage 8,366	Fuel 8,776	(water-	chips - yds) 4,380	<u>Equipment</u>	<u>t Down:</u>
Previous Bala Received		Potable 5,088	3,528 (4,000)	Storage 8,366 0	Fuel 8,776 4,000	(water- Bbls)	chips - yds)	<u>Equipment</u>	<u>t Down:</u>
Previous Bala Received Daily Usage	ance	Potable 5,088 - 1,908	3,528 (4,000) 1,452	Storage 8,366 0 1,086	Fuel 8,776	(water- Bbls) 79,380 -	chips - yds) 4,380 0	<u>Equipment</u>	<u>t Down:</u>
Previous Bala Received	ance	Potable 5,088	3,528 (4,000) 1,452	Storage 8,366 0 1,086 0	Fuel 8,776 4,000 1,615	(water- Bbls)	chips - yds) 4,380	<u>Equipment</u>	<u>t Down:</u>

Date: 1/31/2004 Rpt. No. 20 Hot Ice Project Daily Drilling Report

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1512

99

Operation @ 0600:Coring

Accidents/Injuries: None Reported

Safety: Core Retrieval & Handling Procedures was covered again.

Environmental Incidents:

Total Well Footage Cored109Total Well Core Recovered89Core Recovery Percentage81.0%

Current Depth 24:00 hrs

Footage This Report

			M/-11			CON	e Recovery P	ercentage	01.0 /0
Drilling Supervisors: From To		C. Watson, R Hours		A . 41 14 TI					
	-	-	IADC Code						
	0100	1.00		Circulate, pull core #1(this season) drop next inner core.					
	0200	1.00		Ream to bottom, tight, clay in the first core.					
	0245	0.75		Core #2 recovered 2' Cement. Go back down for the rest, no core.					
0245 0345 1.00						est, no core.			
	0415	0.50		Circulate for FIT.					
	0445	0.50		FIT to 12.8 ppg					
	0600	1.25		Core #3 1423' to 1431' 1hr. / Retrieve 7.1'.					
	0730	1.50		Core to 1433' / Retrieve 4.4' Core					
	0830	1.00		Perform F.I.T. Test - Leak Off Equal to 11.8 ppg mud.					
	1200	3.50		Circ & Cond While Obtaining AOGCC Approval To Proceed.					
	1830	6.50			1433' To 147				
	1930	1.00			1475' to 1485				
1930 2	2130	2.00		Parted the	overshot rod	.Build a fish	ing swedge.P	ull out fish 8	core.
2130 2	2400	2.50		Core from	1485' to 1512	2'.			
T	Fotal	24.00	Hours						
Rental Equipment			Location	Data	a Logger Sur	veys	Mud Sur	face Temp	Micro
Pickup Trucks (5)		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (1)		PBHotel	Deadhorse	•		•	0000	25.6	26.0
Light Plants (5)		GBR	Hot Ice #1				0600	25.0	25.5
Security Guard Shad	ck (1)		Hot Ice #1				1200	28.0	26.0
Heaters (4)	- ()	2GBR/2Veco					1800	26.0	25.0
							2100	27.0	24.0
							2.00		
-				Temp.			I		
				19 to 23	below F				
				Wind	below I .				
				5/15	mph/ Northw	lest			
				0710		1031			
Daily Mud Rep	nort	Timo	of day	Chomic	als Mixed	ľ			
	-			Chemic	ais wiikeu	L			
Mud properties	-	9:00	20:00	-					
–	MW		9.3	-					
Fun	inel Visc.		40.0	-					
	PV		8.0	-					
	YP		12.0	-					
F/L			17.0	-					
Flowline Temp.			25.0	-					
рН			7.5	-					
Chlorides(mg/l)/Ca++			84000.0						
%KCL									
Free	eze Point		14.0						
						Lake			
						K209	Lake K209		
		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumables Potable		Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)	Equipmen	t Down:
			980	7,280	7,161	79,380	4,380		
Previous Balance		3,180	960	7,200	1,101			1	
Previous Balance Received		3,180 3,362	960	7,200	4,250	-	0		
	e		1,568	48	4,250	-	0		
Received		3,362			4,250	- 79,380	0 4,380		

Comments:

Approval obtained from Winton Aubert (AOGCC Anchorage) to proceed with coring well with an 11.8 ppg shoe test. At the core depth of 1485', we pulled a broken overshot rod out, minus the overshot and core. The Tool Pusher built

 Date:
 2/1/2004

 Rpt. No.
 21

Hot Ice Project Daily Drilling Report

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1688

176

Operation @ 0300 AST:Coring @ 1705'

Accidents/Injuries: None Reported

<u>Safety:</u> Tie off lines for safety harnesses were discussed.

Environmental Incidents: none reported.

Total Well Footage Cored	285
Total Well Core Recovered	256
Core Recovery Percentage	90.0%

Current Depth 24:00 hrs

Footage This Report

						Cor	e Recovery P	ercentage	90.0%
Drilling Supe		C. Watson, R			_				
From	То	Hours	IADC Code						
00.00	0245	2.75					' k Wob.(1512		
0245	0300	0.25					tals , no hydra		to 1531)
0300	0600	3.00					' k Wob.(1531		
0600	1800	12.00					Wob. (1555'		
1800	2400	6.00		Coring - 30) Gpm - 150 F	Rpm - 4 to 7	'Wob. (1645'	to 1688')	
	Total	24.00	Hours						
Rental Equip	ment		Location	Data	a Logger Sur	veys	Mud Sur	face Temp.	. Micro
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va	an (1)	PBHotel	Deadhorse	1501	2 °	29.7 °	0000	25.0	26.0
Light Plants (GBR	Hot Ice #1	1541	2.2 °	28.8 °	200	25.0	26.0
Security Guar		Arctic Cater	Hot Ice #1	1590	3.5 °	30 °	500	25.3	26.0
Heaters (4)		2GBR/2Veco	Hot Ice #1	1627	3.4 °	31.8 °	1100	25.8	25.0
				1669	1.8°	31.2°	2100	25.6	23.1
							2400	25.8	22.5
				Temp.					
					below F.				
				Wind	20.011				
				10/ 20	mph/ Northw	vest			
					1				
Daily M	ud Report	Time	of day	Chemic	als Mixed				
	operties @	9:00	20:00	1 greencid		L			
	MW		9.4	4 flovis car					
	Funnel Visc.		43.0	2 KCL	15				
	PV		6.0						
	YP		11.0						
	F/L		6.0	-					
	۲/∟ -lowline Temp		22.0	-					
r r	•			_					
Chiani	pH		9.1	_					
Chiorie	des(mg/l)/Ca++		85000.0	-					
	%KCL		14.0	-					
	Freeze Point		14.0	+		ما م		1	
						Lake			
		Hatles			Hat les	K209	Lake K209		
	_	Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		4 D
Consumable		Potable	Hot Ice Grey	-	Fuel	Bbls)	yds)	<u>Equipmen</u>	t Down:
Previous Bala	ance	5,024	2,156	7,231	9,618	79,380	4,380	l.	
Received		-			-	-	0	ļ	
Daily Usage of		1,399	1,372	415	1,545			ļ	
Cumulative U	sage (est.)	31,206 3,625			8,073	79,380	4,380	ļ	
On Hand			3,528	6,816					

<u>Comments:</u> 10 GPM = 75 psi / 35 GPM = 110 psi / 70 Gpm = 160 psi. hole depth 1683'. Dynamic well kill pump rates. Date: 2/2/2004 Hot Ice Project nada Rpt. No. 22 **Daily Drilling Report** Operation @ 0300 AST:Coring @ 1846' Current Depth 24:00 hrs 1826 Accidents/Injuries: None Reported **Footage This Report** 138 Safety: Hard hat safety was covered. **Total Well Footage Cored** 424 **Total Well Core Recovered** Environmental Incidents: none reported. 388 **Core Recovery Percentage** 92.0% **Drilling Supervisors:** C. Watson, R. Wall From Hours IADC Code Activity Time Summary То Coring - 35 Gpm - 160 Rpm - 4 to 8 k Wob. (1688' to 1726') 0000 0600 6.00 4 Coring - 45/60 Gpm - 160 Rpm - 4 to 8 k Wob. (1726' to 1806') 0600 1530 9.50 4 1530 1630 1.00 21 Transfer Drill Fluid From Vacuum Totes Back To Shaker/Active Sys 1630 1800 Coring - 45/60 Gpm - 160 Rpm - 4 to 8 k Wob. (1806' 1826') 1 50 4 1800 2000 5 Circulate a sweep surface to surface, plus another bottoms up. 2.00 2000 2045 0.75 6 Trip into casing to put new flow meter in loop. 2045 2100 0.25 5 circulate / then blow all plumbing down to Swaco, and pump room. 2100 2230 1.50 22 Install new flow loop meter with Control Craft. 2230 2330 1.00 6 Trip back to bottom. 2330 2400 0.50 Ream 120 feet to bottom. Hole in great shape. 8 Total 24.00 Hours Rental Equipment Location **Data Logger Surveys** Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntls Deadhorse Depth Inclination Out Temp Time In Passenger Van (1) PBHotel Deadhorse 1698 2.6° 32.9° 0000 25.0 23.0 Light Plants (5) GBR Hot Ice #1 1726 2.7° 30.8° 200 25.7 23.5 Security Guard Shack (1) Arctic Cater Hot Ice #1 1816 3.4° 34.2° 400 26.3 25.8 2GBR/2Veco Hot Ice #1 1000 24.5 Heaters (4) 26.0 25.0 1800 27.5 Temp. 18 to 30 below F. Wind 10/20 mph/ Northwest Time of day Chemicals Mixed **Daily Mud Report** 0.00 20:00 20 KCL 50 lb. sxs Mud properties @ 5 defoam > 5 gal cans. мw 9.4 **Funnel Visc** 43.0 2 flovis 5 gal cans. P٧ 6.0 YP 14.0 F/L 7.0 21.0 **Flowline Temp** pН 9.1 Chlorides(mg/l)/Ca++ 93000.0 %KCl 14.0 **Freeze Point** Lake K209 Lake K209 Hot Ice Hot Ice (water-(ice chips Main Wtr. Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) **Equipment Down:** Previous Balance 3,625 3,528 6,816 8,073 79,380 4,380 2,925 4,410 Received 4,190 0 1,527 994 1,685 Daily Usage or made 882 Cumulative Usage (est.) 32,733 79,380 4,380 On Hand 5,025 10 5,822 9,758

Comments: New flow loop meter appears to be working.

 Date:
 2/3/2004

 Rpt. No.
 23

Hot Ice Project Daily Drilling Report

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1993

167

Operation @ 0300 AST:Coring @ 2023'.

Accidents/Injuries: No accidents or injuries.

<u>Safety:</u> Jewelry and rotating equipment, safety topic.

Environmental Incidents: NO spills.

Total Well Footage Cored	591
Total Well Core Recovered	541
Core Recovery Percentage	92.0%

Current Depth 24:00 hrs

Footage This Report

						CON	e Recovery P	ercentage	92.0 /0
Drilling Supervisors: R. Wall D. Thompson From To Hours IADC Code Activity Time Summary 0000 0930 9.50 4 Coring - 55 Gpm - 4 to 7 Wob - 300 Rpm - (1826' to 1895').									
0000	0930	9.50	4				Dom (1926'	to 1805')	1
0930	1730	9.50 8.00	4				Rpm - (1820		
1730	2000	2.50	4				00 Rpm - (195		
2000	2100	1.00	5	•	•		d inner barrel	,	
2100	2400	3.00	4				00 Rpm - (197		
	2.00	0.00					00 . q		
	_								
	Total	24.00	Hours						
Rental Equip			Location		Logger Sur			face Temp.	-
Pickup Trucks			Deadhorse	Depth	Inclination	Temp	Time	In 05.00	Out
Passenger Va		PBHotel GBR	Deadhorse Hot Ice #1	1854 1880	2.3° 3.2°	31.8 ° 32.6°	0130 600	25.8 ° 25.9 °	21 ° 21°
Light Plants (5	,								
Security Guar Heaters (4)	u Shack (1)	2GBR/2Veco	Hot Ice #1	1915 1953	2.9° 2.3°	33.2° 33.7°	1000 1630	24.6° 26.3°	19.2° 23.3°
nealers (4)		ZGBR/ZVECU		1905	2.5	33.7	2130	20.3 27.7°	23.3°
-						-	2330	27.7° 25.8°	26.9°
				Temp.			2330	20.0	20.9
				25 to 32°	helow F				
				Wind	Delow I .				
				2/5	mph/ West				
Daily Mu	ud Report	Time	of day	Chemic	als Mixed				
	perties @	9:00	20:00	18 KCL					
	MW		9.5	1 Defoam	х				
	Funnel Visc.		45.0	1 Flo Vis L					
	PV		7.0	1 Greencid	le.				
	YP		17.0						
	F/L		7.4						
F	lowline Temp.		25.0						
	рН		8.9	-					
Chlorid	les(mg/l)/Ca++		86000.0	-					
	%KCL								
	Freeze Point		14.0					1	
						Lake			
		Hot Ice			Hot les	K209	Lake K209		
Consumable	.	Potable	Hot Ice Grey	Main Wtr.	Hot Ice Fuel	(water- Bbls)	(ice chips -	Equipmen	t Down:
Consumables Previous Bala		5,025	10	Storage 5,822	9,758	79,380	yds) 4,380	<u>Equipmen</u>	L DOWU:
Received		5,025	-	5,022	9,700	19,300	4,360	ł	
Daily Usage o	r made	- 1,464	- 2,146	710		-	0	ł	
Cumulative Us		34,197	2,140	710	1,035	79,380	4,380	L I	
On Hand	0090 (000.)	3,561	2,156	5,112	7,863	10,000	4,000	ł	
Sirriana		0,001	2,100	0,112	7,000			1	

Date: Rpt. No.	2/4/2004 24			ot Ice Proje y Drilling R		Petroleum Corporation	ke ⁱ	20	
Operation @	0300 AST:Cor	ing @ 2121'.							
Accidents/In	juries:	No accidents	or injuries.			С	urrent Depth		2102
Safety:	Fishing for br	oken wireline	was covered v	with rig cre ^v	ws.		Footage TI	nis Report	99
	-			-			tal Well Foot	-	699
Environment	tal Incidents:	NO spills.					al Well Core F e Recovery P		641 92.0%
Drilling Supe		R. Wall		D. Thomp					
From	То	Hours	IADC Code		me Summar				
0000	0300	3.00	4				Rpm - (1993'		
0300	0500	2.00	4				Rpm - (2023'		
0500	0530	0.50	4	Coring, pu	Illing the core	out. Pulled	tight. Wire line	e parted.	
0530	0630	1.00	5	Circulate p	rior to pulling	out of hole.			
0630	0700	0.50	5				ate across top	of hole.	
0700	0800	1.00	6				ating across t		
0/00	0000	1.00	Ū		proper fill. Trip		-	op noie.	
0000					• •				
0800							r tube. Strip o	ff worn wire	line.
	1200	4.00	9	Install 3000	D' of new wire	line.(Rig re	bair)		
1200	1300	1.00	6	RIH to 202	0'				
1300	1330	0.50	5	Pump dow	n inner barrel	. Ream to b	ottom.		
1330	1800	4.50	4				pm-(2039' to 2	2065')	
1800	2400	6.00	4				00 Rpm - (206		
1000	2400	0.00	4	Conng - 55	Gpin - 4 to 1	UK VVUD - 3	00 Rpiii - (200	5 10 2 10 2)	•
	Total	24.00	Hours						
Rental Equip		24.00	Location	Data	Logger Sur	VAVS	Mud Sur	face Temp.	Micro
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In In	Out
		PBHotel	Deadhorse		1º	32.7°			
Passenger Va				1993			100	26.8° 27°	26.5° 27°
Light Plants (GBR	Hot Ice #1	2023	2.5°	33.5°	400		
Security Guar	rd Shack (1)	Arctic Cater	Hot Ice #1	2066	1.1°	29.5°	2000	24.7°	29.4°
Heaters (4)		2GBR/2Veco	Hot Ice #1	2092	2.7°	34.2°	2300	27.5°	28.1°
				Temp.					
				15 to 25°	below F				
			-	Wind					
				2/5	mph/Woot				
				2/5	mph/ West				
Daily M			6 1	<u> </u>		1			
	ud Report		of day		als Mixed	[
Mud pro	operties @	9:00	20:00	21 KCL		[
Mud pro	-	9:00							
Mud pro	operties @	9:00	20:00	21 KCL	x				
Mud pro	operties @ MW	9:00	20:00 9.4 44.0	21 KCL 5 Defoam 2	x	[
Mud pro	pperties @ MW Funnel Visc. PV	9:00	20:00 9.4 44.0 7.0	21 KCL 5 Defoam 2	x				
Mud pro	pperties @ MW Funnel Visc. PV YP	9:00	20:00 9.4 44.0 7.0 14.0	21 KCL 5 Defoam 2	x	[
	operties @ MW Funnel Visc. PV YP F/L	9:00	20:00 9.4 44.0 7.0 14.0 9.6	21 KCL 5 Defoam 2	x				
	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp.	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0	21 KCL 5 Defoam 2	x				
F	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8	21 KCL 5 Defoam 2	x				
F	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp.	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0	21 KCL 5 Defoam 2	x				
F	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8	21 KCL 5 Defoam 2	x				
F	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8	21 KCL 5 Defoam 2	x				
F	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0	21 KCL 5 Defoam 2	x	Lake			
F	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0	21 KCL 5 Defoam 2	x	Lake K209	l ake K209		
F	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0	21 KCL 5 Defoam 3 1 drum of d	X clay gaurd	K209	Lake K209		
Chlorid	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0 14.0	21 KCL 5 Defoam 3 1 drum of c	X clay gaurd Hot Ice	K209 (water-	(ice chips -	F _0.1	Dauma
F Chlorid Consumable	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0 14.0 Hot Ice Grey	21 KCL 5 Defoam 3 1 drum of o Main Wtr. Storage	X clay gaurd Hot Ice Fuel	K209 (water- Bbls)	(ice chips - yds)	Equipment	<u>t Down:</u>
F Chlorid Consumable Previous Bala	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0 14.0	21 KCL 5 Defoam 3 1 drum of o Main Wtr. Storage	X clay gaurd Hot Ice Fuel 7,863	K209 (water-	(ice chips - yds) 4,380	Equipment	t Down:
F Chlorid Consumable	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0 14.0 Hot Ice Grey	21 KCL 5 Defoam 3 1 drum of o Main Wtr. Storage	X clay gaurd Hot Ice Fuel	K209 (water- Bbls)	(ice chips - yds)	Equipment	<u>t Down:</u>
F Chlorid Consumable Previous Bala	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0 14.0 Hot Ice Grey	21 KCL 5 Defoam 3 1 drum of o Main Wtr. Storage	X clay gaurd Hot Ice Fuel 7,863 3,740	K209 (water- Bbls)	(ice chips - yds) 4,380	Equipment	<u>t Down:</u>
F Chlorid Consumable Previous Bala Received Daily Usage of	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00 Hot Ice Potable 3,561 2,480 1,208	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0 14.0 Hot Ice Grey 2,156	21 KCL 5 Defoam 3 1 drum of o Main Wtr. Storage 5,112	X clay gaurd Hot Ice Fuel 7,863 3,740	K209 (water- Bbls) 79,380	(ice chips - yds) 4,380 0	<u>Equipment</u>	<u>t Down:</u>
Chloric Consumable Previous Bala Received	pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	9:00 Hot Ice Potable 3,561 2,480	20:00 9.4 44.0 7.0 14.0 9.6 25.0 8.8 81000.0 14.0 Hot Ice Grey 2,156	21 KCL 5 Defoam 3 1 drum of o Main Wtr. Storage 5,112	X clay gaurd Hot Ice Fuel 7,863 3,740 1,530	K209 (water- Bbls)	(ice chips - yds) 4,380	<u>Equipment</u>	<u>t Down:</u>

<u>Comments:</u> Picking up a night roustabout to help with house keeping, fueling, mud totes etc. Hauled away 22 cubic yards of used mud and cuttings to G&I plant. 40% mud 10.5 ppg & 60% cuttings. loaded up two Super Sucker trucks.
 Date:
 2/5/2004
 Hot Ice Project

 Rpt. No.
 25
 Daily Drilling Report

 Operation @ 0300 AST:circulating @ 2246(Broken wireline.)
 Accidents/Injuries:

No accidents or injuries.



Current Depth 24:00 hrs Footage This Report

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2240

138

 Safety:
 Cold weather travel was discussed, including operating around heavy equipment, and the 'Phase Conditions', across the field.

 Environmental Incidents:
 NO spills.
 T

Total Well Footage Cored837Total Well Core Recovered780Core Recovery Percentage93.0%

						Cor	e Recovery P	ercentage	93.0%
Drilling Supe	rvisors:	R. Wall		D. Thomps	son				
From	То	Hours	IADC Code		me Summar				
0000	0415	4.25	4	Coring - 40) Gpm - 200 F	Rpm - 4 to 7	' Wob (2102' t	to 2129'.)	
0415	0500	0.75	5	Circ. check	out leak in B	ean pumps	. Clean up pui	mp room, tra	ansfer
				tank room.					
0500	1000	5.00	4	Corina - 40	Gpm - 200 F	Rpm - 4 to 7	' Wob (2129' t	o 2146')	
1000	1800	8.00	4				2146' to 2200		mud.
1800	2400	6.00	4				Rpm - 4/10k \		
			-					(
	Total	24.00	Hours						
Rental Equip			Location		Logger Sur			face Temp.	
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In 05.40	Out
Passenger Va		PBHotel	Deadhorse	2129	1.7°	34.5°	500	25.4°	25.7°
Light Plants (5	/	GBR	Hot Ice #1	2210	2.1°	36.9°	2000	26.1°	24.9°
Security Guar	d Shack (1)	Arctic Cater	Hot Ice #1				2400	26.5°	26.9°
Heaters (4)		2GBR/2Veco	Hot Ice #1						
-				Temp.					
				15 to 25°	below F.				
				Wind					
				2 / 5	mph/ West				
						,			
Daily Mu	ud Report	Time	of day	Chemic	als Mixed				
Mud pro	perties @	9:00	20:00	150 sxs K0					
	MW		9.6	3 - 5 gal ca	ins DeFoamX	(
	Funnel Visc.		53.0	15 sxs Dua	al-Flo				
	PV		8.0	1 - 5 gal ca	in FloVis L				
	YP		16.0	2 sxs Soda	l Ash				
	F/L		6.8	1					
F	lowline Temp.		27.0						
	pH		9.6						
Chloric	les(mg/l)/Ca++		94000.0	1					
	%KCL								
	Freeze Point		13.0	1					
						Lake		1	
						K209	Lake K209		
		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumable	\$	Potable	Hot Ice Grey		Fuel	Bbls)	yds)	Equipmen	t Down:
Previous Bala		4,833	3,332	3,976	10,073	79,380	4,380	-44.01101	
Received			2,254	7,600			0	ł	
Daily Usage o	r made	1,717	1,666	2,100				ł	
Cumulative Us		35,405	1,000	2,100	1,025	79,380	4,380	ł	
On Hand		3,116	2,744	8,153	8.248	73,300	4,000	ł	
on nanu		5,110	2,144	0,155	0,240			I	

Comments: 100% recovery the last 24 hours.

Date: 2/6/2004 Hot Ice Project Rpt. No. 26 **Daily Drilling Report** Operation @ 0300 AST: Coring . 2256 No accidents or injuries. Current Depth 24:00 hrs 2246 Accidents/Injuries: **Footage This Report** 6 Safety: Personal hygene. Hand washing.Rig camps and viruses. **Total Well Footage Cored** 843 **Total Well Core Recovered** Environmental Incidents: NO spills. 786 **Core Recovery Percentage** 93.0% **Drilling Supervisors:** R. Wall D. Thompson From Hours IADC Code Activity Time Summary То Coring - 35 Gpm - 250 Rpm - 7k Wob - (2240 to 2246'.) 0000 0200 2.00 4 0200 5 0315 1.25 Circulate - broken wireline - on bottom. circ. BU. blow dn. 0315 0800 4.75 6 Trip out of hole. 0800 0900 6 Lay down core and core barrel. Inner barrel was jammed. 1 00 0900 1100 2.00 21 Wash rig and BOP stack. 1100 1930 8.50 15 Test Bop's. 21 Splice new wireline. spool it on. Pick up core assembly 1930 2130 2.00 2130 2400 2.50 6 Trip in. Drill ice wedge at ground line. Trip to shoe.Service rig. Total 24.00 Hours Rental Equipment Location **Data Logger Surveys** Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntls Deadhorse Depth Inclination Time Out Temp In Passenger Van (1) PBHotel Deadhorse 2246 1.4° 38° 100 26° 26° Light Plants (5) GBR Hot Ice #1 Security Guard Shack (1) Arctic Cater Hot Ice #1 2GBR/2Veco Hot Ice #1 Heaters (4) Temp. 10 to 20° below F. Wind mph/ West 2/5 **Daily Mud Report** Time of day Chemicals Mixed Mud properties @ 9:00 20:00 2 - 5 gal can Greencide мw 9.6 1 - 5 gal cans DeFoamX **Funnel Visc** 48.0 P٧ 7.0 YΡ 13.0 F/L 7.0 27.0 **Flowline Temp** pН 9.7 Chlorides(mg/l)/Ca++ 88000.0 %KCL 14.0 **Freeze Point** Lake K209 Lake K209 Hot Ice Hot Ice (water-(ice chips -Main Wtr. Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) **Equipment Down:** Previous Balance 3,116 2,744 8,153 8,248 79,380 4,380 0 Received 0 1,063 1,781 1,568 1,690 Daily Usage or made Cumulative Usage (est.) 37,185 79,380 4,380

Comments:

1,335

4,312

7,090

6,458

On Hand

Date: 2/7/2004 Hot Ice Project nada Rpt. No. 27 **Daily Drilling Report** Operation @ 0300 AST: @ wireline logging with Schlumberger No accidents or injuries. Current Depth 24:00 hrs 2300 Accidents/Injuries: **Footage This Report** 54 Safety: Fire extinguishers. **Total Well Footage Cored** 897 **Total Well Core Recovered** Environmental Incidents: NO spills. 838 **Core Recovery Percentage** 93.0% **Drilling Supervisors:** R. Wall D. Thompson From Hours IADC Code Activity Time Summary То 0000 0130 1.50 Trip to bottom 6 0130 Coring - 35 Gpm - 300 Rpm - 4 to 7 Wob - (2246 to 2261'.) 0400 2.50 4 0400 1200 8.00 4 Coring - 35 Gpm - 300 Rpm - 4 to 7 Wob - (2261' to 2299') 1200 1330 4 Core (2299' to 2300') TD Pump high vis pill. 1 50 1330 1400 0.50 4 Retrieve core 1400 1500 1.00 4 Rig up and run inclination survey. 1800 POOH 1500 3.00 6 1800 2400 6.00 11 Rig up and run in with Schlumberger logs. Run #1 Platform express. Total 24.00 Hours **Rental Equipment** Location **Data Logger Surveys** Mud Surface Temp. Micro Depth Inclination Pickup Trucks (5) Airport Rntls Deadhorse Time Out Temp In Passenger Van (1) PBHotel Deadhorse 2300 1° 34° 300 27° 28° Light Plants (5) GBR Hot Ice #1 1200 27° 28° Security Guard Shack (1) Arctic Cater Hot Ice #1 2GBR/2Veco Hot Ice #1 Heaters (4) Temp. 22 to 35 below F. Wind 5 to 15 mph/ SW **Daily Mud Report** Time of day Chemicals Mixed Mud properties @ 9.00 20:00 7 sxs KCL мw 9.5 2 - 5 gal Greencide **Funnel Visc** 49.0 1 - 5 gal FloVis L P٧ 8.0 ΥP 13.0 F/L 7.6 27.0 **Flowline Temp** pН 9.5 Chlorides(mg/l)/Ca++ 86000.0 %KCL 14.0 **Freeze Point** Lake K209 Lake K209 Hot Ice Hot Ice (water-(ice chips Main Wtr. Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) **Equipment Down:** Previous Balance 1,335 4,312 7,090 6,458 79,380 4,380 0 Received 3,911 0 3,756 1,049 1,078 532 1,824 Daily Usage or made Cumulative Usage (est.) 38,234 79,380 4,380 On Hand 4,197 5,390 6,558 8,389

2/8/2004 Date: **Hot Ice Project** \nada Rpt. No. 28 **Daily Drilling Report** Operation @ 0300 AST: @ Rigging down schlumberger Accidents/Injuries: No accidents or injuries. Current Depth 24:00 hrs 2300 Footage This Report 0 Reviewed our abandon platform drill from the day before. Safety: Total Well Footage Cored 897 Total Well Core Recovered **Environmental Incidents:** NO spills. 838 Core Recovery Percentage 93.0% R. Wall D. Thompson Drilling Supervisors: From То Hours IADC Code Activity Time Summary 0000 0100 Wireline log Platform express. Caliper log shows 6 to 7 inch hole size. 1.00 11 0100 0500 4.00 11 Wireline log run #2 Sonic logs/ with gamma ray. Rig down SOS sonic log tools. 0500 0600 1.00 11 6.00 Rigging up to run SOS CMR log on drill pipe.Run #3 0600 1200 11 Run in hole with drill pipe to 600'. Circ. 1200 1330 1.50 11 1500 Fan blade broke on Dynatec rig engine. Repair same. 1330 1.50 9 1500 1600 1.00 11 Run in hole with drill pipe to 1250'. Rig up and run side entry sub. Pump down SOS wet connect. Latch up 1600 1800 2.00 11 and test all tools. 0.50 Pre job safety meeting with Schlumberger. 1800 1830 11 1830 2400 5.50 11 Tubing conveyed wire line run CMR. Trip to bottom, make a 200 foot repeat log, trip out. Total 24.00 Hours Rental Equipment Mud Surface Temp. Micro Location Data Logger Surveys Airport Rntls Pickup Trucks (5) Depth Inclination Deadhorse Temp Time In Out Passenger Van (1) PBHotel Deadhorse GBR Light Plants (5) Hot Ice #1 Security Guard Shack (1) Arctic Cater Hot Ice #1 Heaters (4) 2GBR/2Veco Hot Ice #1 Temp. 38 to 40 below F. Wind 5 to 15 mph/ SW **Daily Mud Report** Time of day Chemicals Mixed Mud properties @ 9:00 20:00 none. MW 9.5 Funnel Visc. 49.0 P٧ 8.0 YP 16.0 F/L 7.8 Flowline Temp. 30.0 pН 9.5 Chlorides(mg/l)/Ca++ 85000.0 %KCL Freeze Point 14.0 Lake K209 Lake K209 Hot Ice Hot Ice (water-(ice chips -Main Wtr. Hot Ice Grey Bbls) Consumables Potable Storage Fuel yds) Equipment Down: 4,380 Previous Balance 4,197 5,390 6,558 8,389 79,380 Received 2,226 4,508 3,756 0 0 Daily Usage or made 1,526 1,372 425 1,824 Cumulative Usage (est.) 39,760 79,380 4,380

Comments:

4,897

2,254

6,133

8,389

On Hand

Date: 2/9/2004 Hot Ice Project Rpt. No. 29 **Daily Drilling Report** Operation @ 0300 AST: Picking up 3.5" rods for cement job. No accidents or injuries. Current Depth 24:00 hrs 2300 Accidents/Injuries: **Footage This Report** 0 Safety: Phase 2 conditions in effect starting @ 1800hrs. Discuss operating the over head crane in the high winds. **Total Well Footage Cored** 897 Environmental Incidents: NO spills. **Total Well Core Recovered** 838 **Core Recovery Percentage** 93.0% **Drilling Supervisors:** R. Wall D. Thompson From Hours IADC Code Activity Time Summary То 0000 0400 4.00 In the casing by 00:01 hrs. Pull out probe, retrack wireline, trip out 11 0400 0500 Lay down all the Schlumberger CMR tools. 1.00 11 0500 6 Trip in the hole with 5" rods and core barrel. to circulate the hole clean 0900 4 00 6 and come out laying the rods down. 0900 1600 7.00 5 Circulate at 2300' 1600 2100 5.00 6 POOH laying down 5" drill pipe into the pipe shed. Pick up 3.5" rods . 10 foot joints out of tub. Run in the hole and rack 2100 6 3.00 2400 back in the derrick for the cement P & A job. 6 Total 24.00 Hours Rental Equipment Location **Data Logger Surveys** Mud Surface Temp. Micro Depth Inclination Pickup Trucks (5) Airport Rntls Deadhorse Time Temp In Out Passenger Van (1) PBHotel Deadhorse Light Plants (5) GBR Hot Ice #1 Security Guard Shack (1) Arctic Cater Hot Ice #1 2GBR/2Veco Hot Ice #1 Heaters (4) Temp. 22 to 20 below F. 50 below wind chill. Wind 15 to 25 mph/ E Gusts to 40 mph/ Phase 2. **Daily Mud Report** Time of day Chemicals Mixed Mud properties @ 0.00 20:00 2 - 5 gal cans Greencide мw 9.5 **Funnel Visc** 46.0 P٧ 7.0 YΡ 14.0 F/L 7.8 30.0 **Flowline Temp** pН 9.5 Chlorides(mg/l)/Ca++ 83000.0 %KCL 15.0 **Freeze Point** Lake K209 Lake K209 Hot Ice Hot Ice (water-(ice chips Main Wtr. Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) **Equipment Down:** Previous Balance 4,897 2,254 6,133 9,617 79,380 4,380 Received 0 0 1,272 1,176 355 1,826 Daily Usage or made Cumulative Usage (est.) 41,032 79,380 4,380 On Hand 3,625 3,430 5,778 7,791

Date:	2/10/2004		ц	ot Ice Proje	et .				7
Rpt. No.	30			y Drilling Ro		Petroleum Corporation	æ .	2	
Operation @ 0)300 AST: Rui	nning in the h	ole with VSP t	ubing.				26	
<u>Accidents/Inju</u>	<u>ıries:</u>	No accidents	or injuries.			с	urrent Depth		2300
Safety:	Discussed	accident on a	rig. Safety ha	rnesses an	d moving		Footage Th	is Report	0
•	oarts.				-		al Well Foota	-	897
Environmenta	I Incidents:	NO spills.					I Well Core F Recovery P		838 93.0%
Drilling Super	visors:	R. Wall		D. Thomps	son	0010	, needevery r	ciocinago	00.070
From	То	Hours	IADC Code						
0000	0130	1.50	6	Picking up	3.5" HQ rod, 1	25 in the ho	le.		
0130	0400	2.50	6		from outside				
0400	1400	10.00	6	Pick up 3.5	" HQ rod and	stand back	in derrick.		
1400	1500	1.00	6	Pick up VS	P cable with {	50t crane ar	nd set in pipe	rack.	
1500	1800	3.00	6	Pick up 3.5	" HQ rod and	stand back	in derrick.		
1800			5				while all the	VSP folks s	how up
	2100	3.00	5				and operation		•
2100	2400	3.00	5			,	to the pipe fro	•	
2100	2400	0.00	0	VSP science	•	quipment in			
				VOI SCICIL	c project.				
	Total	24.00	Hours						
Rental Equipn	nent		Location	Data	Logger Surv	veys	Mud Sur	face Temp.	Micro
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In .	Out
Passenger Var		PBHotel	Deadhorse			- I	-		
Light Plants (5)		GBR	Hot Ice #1						
Security Guard		-	Hot Ice #1						
Heaters (4)	Shack (1)		Hot Ice #1						
		2006/2000							
				-					
				Temp.					
				10 to 15	below F.	50	below wind c	nill.	
				Wind					
				15 to 45					
				101040	mph/ E	Gusts	to 50 mph/ Pł	nase 2.	
				101040	mph/ E	Gusts	to 50 mph/ Ph	ase 2.	
Daily Mu	d Report	Time	of day		mph/ E als Mixed	Gusts	to 50 mph/ Pł	ase 2.	
Daily Mu Mud prop		Time 9:00	of day 20:00	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
-				Chemic			to 50 mph/ Pr	iase 2.	
-	perties @ MW		20:00 9.4	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
-	erties @ MW Funnel Visc.		20:00 9.4 45.0	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
-	erties @ MW Funnel Visc. PV		20:00 9.4 45.0 7.0	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
-	erties @ MW Funnel Visc. PV YP		20:00 9.4 45.0 7.0 12.0	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
Mud prop	oerties @ MW Funnel Visc. PV YP F/L		20:00 9.4 45.0 7.0 12.0 7.2	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
Mud prop	erties @ MW Funnel Visc. PV YP F/L owline Temp.	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
Mud prop	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
Mud prop	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
Mud prop	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
Mud prop	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
Mud prop	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
Mud prop	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0	Chemic	als Mixed		to 50 mph/ Pł	ase 2.	
Mud prop	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0	Chemic	als Mixed	Lake		ase 2.	
Mud prop Fl Chloride	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0 15.0	Chemic 13 - 5 gal c	als Mixed an DeFoamX Hot Ice	Lake K209	Lake K209 (ice chips -		t Down:
Mud prop Fl Chloride Consumables	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0 15.0	Chemic 13 - 5 gal c Main Wtr. Storage	als Mixed an DeFoamX Hot Ice Fuel	Lake K209 (water- Bbls)	Lake K209 (ice chips - yds)	ase 2. <u>Equipmen</u>	<u>t Down:</u>
Mud prop Fl Chloride Consumables Previous Balan	erties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL Freeze Point	9:00	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0 15.0 Hot Ice Grey 3,430	Chemic 13 - 5 gal c	als Mixed an DeFoamX Hot Ice Fuel 7,791	Lake K209 (water-	Lake K209 (ice chips - yds) 4,380		<u>t Down:</u>
Mud prop Fl Chloride Previous Balan Received	werties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL Freeze Point	9:00 Hot Ice Potable 3,625 2,289	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0 15.0 Hot Ice Grey 3,430 4,018	Chemic 13 - 5 gal c Main Wtr. Storage 5,778	Hot Ice Fuel 7,791 4,125	Lake K209 (water- Bbls)	Lake K209 (ice chips - yds)		<u>t Down:</u>
Mud prop Fl Chloride Consumables Previous Balan Received Daily Usage or	werties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL Freeze Point	9:00 Hot Ice Potable 3,625 2,289 1,081	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0 15.0 Hot Ice Grey 3,430	Chemic 13 - 5 gal c Main Wtr. Storage	als Mixed an DeFoamX Hot Ice Fuel 7,791	Lake K209 (water- Bbls) 79,380	Lake K209 (ice chips - yds) 4,380 0		<u>t Down:</u>
Mud prop Fl Chloride Previous Balan Received	werties @ MW Funnel Visc. PV YP F/L owline Temp. pH es(mg/l)/Ca++ %KCL Freeze Point	9:00 Hot Ice Potable 3,625 2,289	20:00 9.4 45.0 7.0 12.0 7.2 30.0 9.4 82000.0 15.0 Hot Ice Grey 3,430 4,018	Chemic 13 - 5 gal c Main Wtr. Storage 5,778	Hot Ice Fuel 7,791 4,125	Lake K209 (water- Bbls)	Lake K209 (ice chips - yds) 4,380		<u>t Down:</u>

Date: 2/11/2004 Rpt. No. 31 Hot Ice Project Daily Drilling Report

No accidents or injuries.

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2300

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Operation @ 0300 AST:

Accidents/Injuries:

Safety:

Environmental Incidents: NO spills.

Total Well Footage Cored897Total Well Core Recovered838Core Recovery Percentage93.0%

Current Depth 24:00 hrs

Footage This Report

Drilling Supe	arvisors.	R. Wall		D. Thomps	son	0010	e Recovery P	oroontago	00.070
From	To	Hours	IADC Code	•	me Summar	v			
0000	0100	1.00	6				with 10 stand	s	
0100	0530	4.50	1		P equipment.				
0530	0600	0.50	11			VSP loggir	ng tools and 1	5/8" tubing.	
0600	0630	0.50	11		ety meeting w			J	
0630	0800	1.50	11	Laydown V					
0800	2100	13.00	5			late 10GPN	1 Wait on PGS	S / Weather	delay
2100	2400	3.00	5	Circulate /	Wait on weat	her.			-
	Total	24.00	Hours						
Rental Equip			Location		Logger Sur			face Temp	Micro
Pickup Trucks	· · /		Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse						
Light Plants (,	GBR	Hot Ice #1						
Security Guar	rd Shack (1)		Hot Ice #1						
Heaters (4)		2GBR/2Veco	Hot Ice #1						
				Temp.					
				10 to 15	helow F	50	below wind c	hill	
				Wind	DCIOW I	00			
				15 to 45	mph/ E	Gusts	to 50 mph/ Ph	nase 3.	
						,			
	ud Report		of day	Chemic	als Mixed				
Mud pro	operties @	9:00	20:00	-					
	MW		9.4	5 - 5 gal ca	ins DeFoamX	(
	Funnel Visc.		41.0	-					
	PV		6.0						
	YP		13.0						
	F/L Flowline Temp.		8.0 51.0	_					
ſ	pH		9.3						
Chlorid	pn ++des(mg/l		76000.0						
omore	%KCL		70000.0						
	Freeze Point		16.0						
						Lake			
						K209	Lake K209		
		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumable		Potable	Hot Ice Grey		Fuel	Bbls)	yds)	<u>Equipmen</u>	t Down:
Previous Bala	ance	4,833	392	5,317	9,476	79,380	4,380	ļ	
Received	rmada	4.004	4 070	700	4 474	-	0		
Daily Usage of		1,081	1,372	780	1,474	70.000	4 200	l.	
Cumulative U On Hand	saye (est.)	42,113 3,752	1,764	4,537	8,002	79,380	4,380	ļ	
Un nanu		5,752	1,704	4,557	0,002			l	

2/12/2004 Date: Rpt. No. 32

Safety:

Hot Ice Project **Daily Drilling Report**



2300

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Operation @ 0300 AST: VSP data acquisition

Accidents/Injuries: No accidents or injuries.

Current Depth 24:00 hrs Footage This Report Discussed an electrical fatality report from Egypt.

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Environmental Incidents: NO spills.

Total Well Footage Cored 897 **Total Well Core Recovered** 838 **Core Recovery Percentage** 93.0% D. Thompson

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Drilling Supe	ruisors	R. Wall		D. Thomps	son	0011	e Recovery P	crocinage	00.070
From	To	Hours	IADC Code	•	me Summar	v			
0000	0030	0.50	5		tect top 160 f		lus for VSP		
0030	0100	0.50	6		m 160'. Blow				
0100	0500	4.00	11				embly/ array/	on 1.66" Pa	ulsson
0100	0000	4.00			eophones in		chibiy/ anay/	011 1.00 1 0	
0500	1900	14.00	11				sure test every	20 geopho	nes
1900	2030	1.50	11				uel the rig / be		
1000	2000	1.00			logging traile				
2030	2400	3.50	11		th VSP system				
	Total	24.00	Hours						
Rental Equip		Aline ant Dustla	Location		Logger Sur			face Temp	
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va Light Plants (5		PBHotel GBR	Deadhorse Hot Ice #1						
Security Guar		Arctic Cater	Hot Ice #1						
Heaters (4)		2GBR/2Veco							
Manlifts (2)		Airport Rntls	Hot Ice #1						
Marints (2)									
				Temp.					
				10 to 15	below F.	50	below wind c	hill.	
				Wind					
				15 to 45	mph/ E	Gusts	to 50 mph/ Ph	nase 3.	
Daily Mu	ud Report	Time	of day	Chemic	als Mixed	1			
Mud pro	operties @	9:00	20:00	40 s	xs KCl	l .			
	MW		9.4	2 - 5 gal c	ans FloVis L				
	Funnel Visc.		41.0						
	PV		6.0						
	YP		13.0						
	F/L		7.8						
F	Iowline Temp.		NA						
	pH		9.1						
Chloric	des(mg/l)/Ca++		86000/140						
	%KCL		44.0	-					
	Freeze Point		14.0			Laka		l	
						Lake K209	Lake K209		
		Hot Ice		Main Wtr.	Hot Ice	water-	(ice chips -		
Consumable	c	Potable	Hot Ice Grey		Fuel	(water- Bbls)	yds)	Equipmen	t Down:
Previous Bala	-	3,752	1,764	4,537	8,002	79,380	4,380	Equipmen	C DOWIL
Received		2,226	1,704	7,007	4,147		0		
Daily Usage o	or made	890	686	283	3,660				
Cumulative U		43,194			5,000	79,380	4,380		
On Hand	0-()	5,088	2,450	4,254	8,493	.,	,		
· · · · · ·		- ,	, , , , , , , , , , , , , , , , , , , ,	. ,	-,			l i	

Date: 2/13/2004 Hot Ice Project Anadai Rpt. No. 33 **Daily Drilling Report** Operation @ 0300 AST: VSP data acquisition Accidents/Injuries: No accidents or injuries. Current Depth 24:00 hrs 2300 **Footage This Report** 0 Safety: Discussed rabies and arctic foxes. **Total Well Footage Cored** 897 NO spills. **Total Well Core Recovered** 838 **Environmental Incidents: Core Recovery Percentage** 93.0% R. Wall **Drilling Supervisors:** D. Thompson IADC Code From То Hours Activity Time Summary Calibrating the VSP system 220 feet off bottom. 0000 0200 2.00 11 0200 0430 2.50 11 Trip to bottom with array / close annular preventor around sub. pressure up to 100psi. Begin data acquisition. 0430 2400 19.50 11 Data acquisition. Total 24.00 Hours Data Logger Surveys Mud Surface Temp. Micro **Rental Equipment** Location Pickup Trucks (5) Depth Inclination Airport Rntls Deadhorse Temp Time In Out Passenger Van (1) PBHotel Deadhorse Light Plants (5) GBR Hot Ice #1 Security Guard Shack (1) Arctic Cater Hot Ice #1 2GBR/2Veco Hot Ice #1 Heaters (4)

			Temp. 10 to 20 Wind	below F.	50	below wind c	hill.	
			15 to 45	mph/ E		Susts to 50 mp n Pads/Phase		
Daily Mud Report	Time	of day	Chemic	als Mixed				
Mud properties @	9:00	20:00	2 - 5gal.	Defoam X	•			
MW		9.4	1- 50 lb. b	og soda ash				
Funnel Visc.		41.0						
PV		6.0						
YP		13.0						
F/L		7.8						
Flowline Temp.		NA						
pH		9.1						
Chlorides(mg/l)/Ca++		86000/140						
%KCL								
Freeze Point		14.0						
Consumables	Hot Ice Potable	Hot Ice Grey	Main Wtr. Storage	Hot Ice Fuel	Lake K209 (water- Bbls)	Lake K209 (ice chips - yds)	Equipmen	t Down:
Previous Balance	5,088	2,450	4,254	8,493	79,380	4,380		
Received				1,000	-	0		
Daily Usage or made	1,654	1,568	71	2,614				
Cumulative Usage (est.)	44,848				79,380	4,380		
On Hand	3,434	4,018	4,183	6,879				

Fuel received today is held for PGS. storage only.

Date: Rpt. No.	2/14/2004 34			ot Ice Proje y Drilling R		Petroleum Corporation	ارم اً	2	
Operation @	0300 AST: VSI	^o data acquisi	tion/tripping o	out with too	ols.			20	
Accidents/Inj	juries:	No accidents	or injuries.			c	urrent Depth Footage Tl		
<u>Safety:</u>	Discus	sed BOP test	, pinch points	, changing	rams		i ootage ii		Ů
Environment	al Incidente:	NO spills.					tal Well Foot al Well Core F	-	897 838
Livitonment	ar meidents.	NO Spills.					e Recovery P		
Drilling Supe From	ervisors: To	R. Wall Hours	IADC Code	D. Thomps	son ime Summar				
0000	0500	5.00	11	Data acqui		y			1
0500	0500	5.00	11			the Paulesc	on tubing. Ope	n haa hurs	t pressure
0000	0600	1.00			/ with clean di		on tubing. Opc	in bay. buis	pressure
0600	0000	1.00	11	,			ure disc as ru	ntered Trin	out with
0000	0700	1.00	11	VSP equip		verily rupu		plered. mp	out with
0700	0830	1.50	11		on Cable reel i	n nine sher	4		
0830	1130	3.00	11		n VSP tubing.				
1130	1230	1.00	11		ubing @ 6 gpi	m @ 200 ns	si		
1230	2000	7.50	11				10 minutes pe	er aeophone	2
2000	2100	1.00	15				stations. Cell		
2100	2200	1.00	15				t. Prepare wa		
2100	2200	1.00	15	cleaning th			a. Trepare wa	sii dowii gu	
2200	2400	2.00	11	0	ng tools pulling	g wet, slow	trip out. Burst	disc appea	rs to not
					-				
	Total	24.00	Hours						
Rental Equip		24.00	Location	Data	a Logger Sur	VOVE	Mud Sur	face Temp	Micro
Rental Equip	inent		Location	Dala	a Louuei Sui	veys	iviuu Sui		
		Airport Datle	Doodhorso						Out
Pickup Trucks	s (5)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Pickup Trucks Passenger Va	s (5) an (1)	PBHotel	Deadhorse						Out
Pickup Trucks Passenger Va Light Plants (\$	s (5) an (1) 5)	PBHotel GBR	Deadhorse Hot Ice #1						Out
Pickup Trucks Passenger Va Light Plants (& Security Guar	s (5) an (1) 5)	PBHotel GBR Arctic Cater	Deadhorse Hot Ice #1 Hot Ice #1						Out
Pickup Trucks Passenger Va Light Plants (\$	s (5) an (1) 5)	PBHotel GBR	Deadhorse Hot Ice #1 Hot Ice #1						Out
Pickup Trucks Passenger Va Light Plants (& Security Guar	s (5) an (1) 5)	PBHotel GBR Arctic Cater	Deadhorse Hot Ice #1 Hot Ice #1						Out
Pickup Trucks Passenger Va Light Plants (& Security Guar	s (5) an (1) 5)	PBHotel GBR Arctic Cater	Deadhorse Hot Ice #1 Hot Ice #1	Depth					Out
Pickup Trucks Passenger Va Light Plants (& Security Guar	s (5) an (1) 5)	PBHotel GBR Arctic Cater	Deadhorse Hot Ice #1 Hot Ice #1	Depth Temp.	Inclination	Temp	Time		Out
Pickup Trucks Passenger Va Light Plants (& Security Guar	s (5) an (1) 5)	PBHotel GBR Arctic Cater	Deadhorse Hot Ice #1 Hot Ice #1	Depth 		Temp			Out
Pickup Trucks Passenger Va Light Plants (& Security Guar	s (5) an (1) 5)	PBHotel GBR Arctic Cater	Deadhorse Hot Ice #1 Hot Ice #1	Depth Temp. 10 to 20 Wind	below F.	Temp 50	Time	In In In In In In In In In In In In In I	Out
Pickup Trucks Passenger Va Light Plants (& Security Guar	s (5) an (1) 5)	PBHotel GBR Arctic Cater	Deadhorse Hot Ice #1 Hot Ice #1	Depth 	below F.	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4)	s (5) an (1) 5) rd Shack (1)	PBHotel GBR Arctic Cater 2GBR/2Veco	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1	Depth Temp. 10 to 20 Wind 15 to 45	Inclination below F. mph/ E	Temp 50	Time	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4)	s (5) an (1) 5) rd Shack (1) ud Report	PBHotel GBR Arctic Cater 2GBR/2Veco Time	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1	Depth Temp. 10 to 20 Wind 15 to 45 Chemic	Inclination below F. mph/ E	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4)	s (5) an (1) 5) rd Shack (1) ud Report operties @	PBHotel GBR Arctic Cater 2GBR/2Veco	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4)	s (5) an (1) 5) rd Shack (1) ud Report operties @ MW	PBHotel GBR Arctic Cater 2GBR/2Veco Time	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	Inclination below F. mph/ E	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4)	s (5) an (1) 5) rd Shack (1) ud Report operties @ MW Funnel Visc.	PBHotel GBR Arctic Cater 2GBR/2Veco Time	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4)	s (5) an (1) 5) rd Shack (1) ud Report operties @ MW Funnel Visc. PV	PBHotel GBR Arctic Cater 2GBR/2Veco Time	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4)	s (5) an (1) 5) od Shack (1) d Shack (1) ud Report pperties @ MW Funnel Visc. PV YP	PBHotel GBR Arctic Cater 2GBR/2Veco Time	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) rd Shack (1) d Shack (1) d Shack (1) MW Funnel Visc. PV YP F/L	PBHotel GBR Arctic Cater 2GBR/2Veco Time	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) MW Funnel Visc. PV Flowline Temp.	PBHotel GBR Arctic Cater 2GBR/2Veco 500 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) MW Funnel Visc. PV Flowline Temp. pH	PBHotel GBR Arctic Cater 2GBR/2Veco 500 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) MW Funnel Visc. PV Flowline Temp.	PBHotel GBR Arctic Cater 2GBR/2Veco 500 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) MW Funnel Visc. PV YP Flumnel Visc. PV Flowline Temp. pH des(mg/l)/Ca++ %KCL	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/I)/Ca++	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50 C Phase 3 o	Time below wind c	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) MW Funnel Visc. PV YP Flumnel Visc. PV Flowline Temp. pH des(mg/l)/Ca++ %KCL	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50 G Phase 3 of Lake	Time	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) MW Funnel Visc. PV YP Flumnel Visc. PV Flowline Temp. pH des(mg/l)/Ca++ %KCL	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50 C Phase 3 o	Time	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) MW Funnel Visc. PV YP Flumnel Visc. PV Flowline Temp. pH des(mg/l)/Ca++ %KCL	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal	below F. mph/ E Defoam X	Temp 50 G Phase 3 of Lake	Time	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) mutical state of the second state of te of the second state	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal 1- 50 lb. I	Inclination below F. mph/ E als Mixed . Defoam X bg soda ash	Temp 50 C Phase 3 of Lake K209	Time below wind c Susts to 50 mp n Pads/Phase n Pads/Phase (ice chips - yds)	In hill.	
Pickup Trucks Passenger Va Light Plants (Security Guar Heaters (4) Daily Mu Mud pro	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) genties gentie	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140 14.0	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal 1- 50 lb. l	Inclination below F. mph/ E als Mixed . Defoam X bg soda ash Hot Ice Fuel	Temp 50 G Phase 3 of Lake K209 (water-	Time below wind c Susts to 50 mp n Pads/Phase Lake K209 (ice chips -	hill.	
Pickup Trucks Passenger Va Light Plants (5 Security Guar Heaters (4) Daily Mu Mud pro F Chloric	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) genties gentie	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00 9:00 Hot Ice Potable	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140 14.0 Hot Ice Grey	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal 1- 50 lb. l	Inclination	Temp 50 G Phase 3 of Phase 3 of (water- Bbls)	Time below wind c Susts to 50 mp n Pads/Phase n Pads/Phase (ice chips - yds)	hill.	
Pickup Trucks Passenger Va Light Plants (5 Security Guar Heaters (4) Daily Mu Mud prc Consumable Previous Bala	s (5) an (1) 5) d Shack (1) d Shack (1) d Shack (1) d Shack (1) genties gentie	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00 9:00 Hot Ice Potable 3,434	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140 14.0 Hot Ice Grey 4,018	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal 1- 50 lb. l Main Wtr. Storage 4,183	Inclination	Temp 50 G Phase 3 of Phase 3 of (water- Bbls)	Time below wind c Susts to 50 mp n Pads/Phase n Pads/Phase (ice chips - yds) 4,380	hill.	
Pickup Trucks Passenger Va Light Plants (f Security Guar Heaters (4) Daily Mu Mud pro Consumable Previous Bala Received Daily Usage of	s (5) an (1) 5) rd Shack (1) ud Report operties @ MW Funnel Visc. PV F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s nnce	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00 9:00 Hot Ice Potable 3,434	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140 14.0 14.0 Hot Ice Grey 4,018 3,822	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal 1- 50 lb. l Main Wtr. Storage 4,183 4,969	Inclination below F. mph/ E als Mixed . Defoam X bg soda ash bg soda ash Hot Ice Fuel 6,879 3,671	Temp 50 G Phase 3 of Phase 3 of (water- Bbls)	Time below wind c Susts to 50 mp n Pads/Phase n Pads/Phase (ice chips - yds) 4,380	hill.	
Pickup Trucks Passenger Va Light Plants (5 Security Guar Heaters (4) Daily Mu Mud pro F Chloric Previous Bala Received	s (5) an (1) 5) rd Shack (1) ud Report operties @ MW Funnel Visc. PV F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s nnce	PBHotel GBR Arctic Cater 2GBR/2Veco 9:00 9:00 Hot Ice Potable 3,434 2,671	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 of day 20:00 9.4 41.0 6.0 13.0 7.8 NA 9.1 86000/140 14.0 14.0 Hot Ice Grey 4,018 3,822	Depth Temp. 10 to 20 Wind 15 to 45 Chemic 2 - 5gal 1- 50 lb. l Main Wtr. Storage 4,183 4,969	Inclination	Temp 50 G Phase 3 of Phase 3 of (water- Bbls) 79,380 -	Time below wind c Susts to 50 mp n Pads/Phase (ice chips - yds) 4,380 0	hill.	

Date: 2/15/2004 Rpt. No. 35 Hot Ice Project Daily Drilling Report





2300

0

Operation @ 0300 AST: P & A cement job.

Accidents/Injuries: No accidents or injuries.

Safety: Discussed plug and abandonment proceedure with Dowell

Environmental Incidents: NO spills.

Dowell Total Well Footage Cored 897 Total Well Core Recovered 838 Core Recovery Percentage 93.0%

Current Depth 24:00 hrs Footage This Report

From To Hours IADC Code Activity Time Summary 0000 0500 5.00 11 Tripping out wet with VSP 1.65 EUE string. All gas detection testing complete, and the test pump ready. 0000 0800 1.00 11 Out of the hole, crate up geophones, bladders, VSP equipment 0800 0800 2.00 15 BOP test / Anow unver VSP neel to ground level and place inside Paulsson conex with forklift. 0800 1200 4.00 15 BOP test / Anow unver VSP neel to ground level and place inside Paulsson conex with forklift. 1800 1800 2.00 15 BOP test / Anow unver VSP neer to ground level and place inside Paulsson conex with forklift. 1800 1800 2.00 15 BOP test / Anow unver VSP neer to ground level and place inside Paulsson conex with forklift. 1800 2100 3.00 1 Right down test pump ready. 0.00 read values / Log and v							0011	e Recovery P	oroontago	
0000 0500 5.00 11 Tripping out wet with V\$P 1.66* EUE string. All gas detection testing complete. and the test pump ready. All gas detection testing complete. and the test pump ready. 0600 0800 2.00 11 Out of the hole, crate up geophones, bladders, VSP equipment Safety meeting / begin BOP test / lower VSP reet to ground level and pice inside Paulsson conex with forkitit. 0800 1200 4.00 15 BOP test / haw out lines / changing pipe rams beak / pump trace up / thaw out / test plug rubber leak / fix everything. 1600 1800 2.00 15 BOP test / haw out lines / changing pipe rams outer kill valve / HCR choke / choke valves 1.2, on Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. or Swaco manifold. Hydraulic choke / manual choke / valves 4.5, 0. Mud Surface Temp. Micro Pickup Tucks (5) 1800 2100 3.00 1 Trip in 200 feet to cinculate out freeze protect fluid.			R. Wall		•					
OS00 OS00 OS00 Complete, and the test pump ready. 0600 0800 2.00 11 Out of the hole, crash up geophones, bladders, VSP equipment 0800 1200 4.00 15 BoP test / thaw out lines / changing pipe rams BoP test / thaw out lines / changing pipe rams BoP test / thaw out lines / changing pipe rams BoP test / thaw out lines / changing pipe rams BoP test / thaw out lines / changing pipe rams BoP test / thaw out lines / changing pipe rams BoP test / thaw out lines / changing pipe rams BoP test / thaw out lines / changing pipe rams BoP test / thaw out lines / changing pipe rams BoP test / thaw out / test plug rubber 1600 1800 2.00 15 BoP test / thaw out / test plug rubber Iest / thaw out / test plug rubber 1800 2100 3.00 1 Rig down test pump / pull test plug / make a mule shoe pint. Trip in 200 feet to circulate out freeze protect fluid. 2100 2200 1.00 5 Trip to bottom Trip to bottom Trotal 24.00 Hours Depth Inclination Temp. 2200 24.00 Airport Rhits Deadnorse Depth Inclination Easte pint.		-	1					E otring All a	a dotaction	tooting
C500 C600 1.00 11 Out of the hole, crate up geophones, bidders, VSP equipment and place inside Paulsaon conex with forklift. 0800 1200 4.00 15 BOP test / thaw out lines / changing pipe arms 1200 1600 4.00 15 BOP test / thaw out lines / changing pipe arms 1200 1600 4.00 15 BOP test / thaw out lines / changing pipe arms 1600 1800 2.00 15 BOP test / Anual r / inner kill valve / inner choke valve / pipe ram / outer kill valve / HCR choke / choke valves 4.56, on Swaco manifold. Hydraulic choke / manual choke / valves 4.56, on Swaco manifold. Bind ram / inner choke / inner kill valves / Complete test. Tit walves / Standpipe valve / Mud manifold / All tests complete security of 2200 1800 2100 3.00 1 Rig down test pump / pull test plug / make a mule shoe joint. Trip to bottom 1800 2100 3.00 1 Rig down test pump / pull test plug / make a mule shoe joint. Trip to bottom 1900 200 2.00 6 Trip to bottom 1000 2000 2.00 6 Trip to bottom 1100 PBHotel Deadhorse Dept inclination Tom 120	0000	0500	5.00	11					as detection	testing
0600 0800 2.00 11 Safety meeting / begin 50 ² lest / lower / SP rest 0 ground level and place inside Paulsson concers with forklift. 0800 1200 4.00 15 BOP test / thaw out lines / changing pipe rams Bop test / door seals leak / pump froze up / thaw out / test plug rubber leak / fix everything. 1600 1800 2.00 15 BOP test / Annular / inner kill valve / inner choke valve 1,2,3 on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. Hydraulic choke / manual choke / valves 4,5,6, on Swaco manifold. 2100 2200 1,00 5 Trip to bottom Total 2.000 Total 2.000 Total colspan="2">Souther this valves / test plug / make a mule shoe joint. Total 2.000 Geadhorse Deadhorse Deadhorse <td>0500</td> <td>0600</td> <td>1 00</td> <td>11</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>nt</td>	0500	0600	1 00	11						nt
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Image: second	1600	1900	2.00	15				linner ehekey	volvo / nino	rom /
Hydraulic choke / manual choke / values 4.5.6, on Swaco manifold. Blind ram / inner choke / inner kill values / Complete test. TitW values / Standpipe value / Mud manifild. / Alt tests complete test. Trip io 200 Hydraulic choke / inner kill values / Complete test. Trip io 200 Hydraulic choke / inner kill values / Complete test. Trip io 200 Hydraulic choke / inner kill values / Complete test. Trip io 200 Hydraulic choke / inner kill values / Complete test. Trip io 200 Hydraulic choke / inner kill values / Complete test. Trip io 200 Hydraulic choke / inner kill values / Complete test. Trip io 200 Hydraulic choke / inner kill values / Complete test. Trip io 200 Hydraulic choke / inner kill values / Complete test. Trip io 200 Hydraulic choke / inner kill values / Complete sciences protect fluid. Passenger Van (1) PBHotel Deadhorse Deathorse Mud Surface Temp. Micro Pickup Trucks (5) GBR Hot Ice #1 Inclination Temp Time Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination Inclination Inclination Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination Inclination Inclination Heaters (4) 2GBR/2Veco Hot Ice #1 Inclination Inclination Inclination Inclination Mud properties @ 9:00	1600	1600	2.00	15						
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1800 2100 3.00 1 TW valves / Standpipe valve / Mud manifod. / All tests complete Rig down test pump / pull test plug / make a mule shoe joint. Trip in 2000 feet to circulate out freeze protect fluid. 2200 2400 2.00 6 Trip in 200 feet to circulate out freeze protect fluid. Rental Equipment Location Data Logger Survey Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Dept Inclination Temp Time In Out Passenger Van (1) PBHotei Deedhorse Dept Inclination Temp Im Out Light Plants (5) GBR Hot Ice #1										mioia.
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Heaters (4) 2GBR/2Veco Hot Ice #1 Image: Constraint of the image: Cons			-							
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On Hand 3,688 2,744 10,918 9,476	Received Daily Usage o		1,209	1,176	126	2,076	79,380	4,380		

Date: Rpt. No.	2/16/2004 36			lot Ice Proje y Drilling R	4	Anacian Petroleum Corporation	kæ¹	E.	
Operation @	0300 AST: Cle	aning Mud Pit	s and breako	ut DP.				20	
Accidents/In	juries:	No accidents	or injuries.			c	urrent Depth		2300
Safety:	Discussed	plug and aba	ndonment pro	ceedure wi	th Dowell		Footage Th	his Report	0
		1.5.				То	tal Well Foota	age Cored	897
Environment	al Incidents:	NO spills.					al Well Core F e Recoverv P		838 93.0%
Drilling Supe From	ervisors: To	R. Wall / T. T Hours			son / C. Wats me Summar	son	e Recovery P	ercentage	93.0%
0000	0130	1.50	6	RIH to 224		,			
0130	0300	1.50	5	Circ & con	d the mud / rig	g up Dowell	and Peak true	cks to ceme	ent.
0300	0315	0.25	5		re job safety i				
0315				Plug #1 - F	ump 100 sxs	(16.5 bbls)	, 15.7 ppg Arc	ticSet ceme	ent plug
	0400	0.75	18				IP at 0400 hrs		
0400	0600	2.00	18	POOH 16	stds. Circ & c	ondition the	mud / watch t	for cement -	· ok
0600	0800	2.00	18	-	12 stands of c				
0800	0830	0.50	18	Trip in and	tag cement a	at 1761'. Ha	rd.		
0830							5.7 ppg Arctio		t plug
	1130	3.00	18	from 1760	to 1120' (with	out pipe). C	IP at 1130 hrs	s 2/16/04.	
1130	1600	4.50	18	POOH to 8	80'. Circ & co	ond while wa	aiting on ceme	ent.	
1600				RIH tag ce	ment at 1120	'. Set 6000	lbs witnessed	by Chuck	
	1800	2.00	18	Shieve w/A	laska Oil & G	Gas			
1800				-	• •	•	back 220'. L/C		. RIH
	2300	5.00	18				ı joint while ciı		
2300	2400	1.00	18				7 ppg ArcticSe		
				from 220 to	o 3' below GL	_ (30' withou	ut pipe). CIP a	t 0015 hrs 2	2/17/04.
	Total	24.00	Hours						
Rental Equip			Location		Logger Sur			face Temp	Micro
Pickup Trucks			Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse						
Light Plants (GBR	Hot Ice #1						
Security Guar	d Shack (1)	Arctic Cater	Hot Ice #1						
Heaters (4)		2GBR/2Veco							
50T Crane (1))	Peak	Hot Ice #1						
Manlift (1)		Airport Rntls	Hot Ice #1	Tama					
				Temp.		00	la a la constant a la c		
				31 to 34	below F.	60	below wind c	nill.	
				Wind					
				15 to 25	mpn/ vv				
Daily M	ud Report	Timo	of day	Chomic	als Mixed	1			
_	operties @	9:00	20:00		of SAPP	n			
Mud pro	MW	9.00	<u>20.00</u> 9.4+	-	nent Greensi	do			
	Funnel Visc.		51.0	inv. aujusti	nent Greensi	ue			
	PV		7.0						
	YP		11.0	_					
	F/L		8.4	-					
	∟/۔ Flowline Temp.		0.4 NA	-					
'	-nowinie reinp. Plq		11.8	1					
Chloric	חק ++des(mg/l)/Ca		80000/2200	-					
Sillon	%KCL		5000012200	1					
	Freeze Point		15.0	1					
						Lake			
						K209	Lake K209		
		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumable	s	Potable	Hot Ice Grey		Fuel	Bbls)	yds)	Equipmen	t Down:
Previous Bala		3,688	2,744	10,918		79,380	4,380		
Received		2,035	-	1,772		-	0		
Daily Usage o	or made	1,081	1,078	3,970					
Cumulativa									
	sage (est.)	47,138				79,380	4,380		
On Hand	sage (est.)	47,138 4,642	3,822	8,720		79,380	4,380		

Date: Rpt. No.	2/17/2004 37			ot Ice Proje / Drilling R			ke ⁱ		
Operation @	<u>0300 AST:</u>	R/D Kill Line						20	
Accidents/Inj	uries:	No accidents	or injuries.			с	urrent Depth		
Safety:	Dis	scussed comr	nunication and	d heavy lift	s		Footage Th	lis Report	0
		o	–				tal Well Foota	-	
<u>Environment</u>	al Incidents:	One spill (No	n Reportable)	- see comr	nents		e Recovery P		838 93.0%
<u>Drilling Supe</u> From	<u>rvisors:</u> To	C. Watson / Hours		A otivity Ti	me Summar	.,	-	-	
0000	10	Hours	IADC Code				(8 bbls), 15.7	nna Arctic	Set
0000	0030	0.50	18				(0 0010), 10.7 30' wo/pipe). C		
0030				POOH layo	down 10 stan	ds of drillpip	e. Pick up one	e joint & RII	H on 1 std
							mud across s		
	0000	2.00	10				and circulate		ss stack.
0230	0230 0300	2.00 0.50	18 1				ble from 30' wi taminated fluid		
0230	0300	0.50		,	0		all 3 1/2" drill		s & set
0000	0700	4.00	1	Ŭ	shipping con			Pipe stand	
0700							nt at 35', Lay D	own 2 jts. 3	3 1/2",
	0800	1.00	1	Install Rota	ating Head, P	/U 1 jt. 5", R	IH to 34' & Ur	load Hole	W/Air.
0800	1500	7.00	1				ubs. Cleaning		
1500	2400	9.00	1				re wash rig flo		
							luid chemcials		
							g doors on lab		
							mud chemical		
	Total	24.00	Hours				ient. Rig electi S. R/D escape		nnect
Rental Equip			Location		a Logger Sur			face Temp	Micro
Pickup Trucks			Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va	· · /	PBHotel	Deadhorse						
Light Plants (5		GBR	Hot Ice #1						
Security Guar	d Shack (1)	Arctic Cater	Hot Ice #1						
Heaters (4)		2GBR/2Veco							
50T Crane (1)			Hot Ice #1						
Manlift (1)		Airport Rntls	Hot Ice #1	-					
			<u> </u>	Temp.	holow F				
			<u> </u>	32 to 41 Wind	below F.				
					mph/ W				
				ngin	Ib.n aa				
Dailv Mı	ud Report	Time	of day	Chemic	als Mixed	ľ			
	perties @	9:00	20:00			L			
	MW								
	Funnel Visc.								
	PV								
	YP								
_	F/L								
F	lowline Temp.			ł					
Chlorie	pH les(mg/l)/Ca++			4					
Chioric	%KCL	-		4					
	Freeze Point			1					
						Lake			
						K209	Lake K209		
		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumables		Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)		
Previous Bala	nce	4,642	3,822	8,720	7,862	79,380	4,380		
Received	n ma a d -	4 500	4,010	4 000	4 000	-	0		
Daily Usage o	i made	1,590	1,658	4,963	1,826				
Cumulativa	cade (act)	10 700			-	70 200	1 200		
Cumulative Us On Hand	sage (est.)	48,728 3,052	1,470	3,757	6,036	79,380	4,380		

Comments:

Steve Schmitz w/ADOG visited the location, he was impressed with the clean operations. While backing loading barite, Forklift driver accidently punctured 3 sxs of barite which was located on matts northside of platform

Operation 20 010 AST Broke Tour - Night Crew is shifting back to Days - continue to R0 Section 1 Current Depth 24:00 hrs 200 Safety: Reviewed spill incidents and discussed permit requirements Total Well Footage Cored 897 Environmental Incidents: One Spill (Non Reportable) see comments. Total Well Footage Cored 897 Original Discretion: C. Watson / Trial Index Core 897 Original Discretion: C. Watson / Trial Discretion: B97 Original Discretion: C. Watson / Trial Discretion: B97 Original Discretion: C. Watson / Trial Discretion: B97 Discretion: Discretion: B97 Original Discretion: C. Watson / Trial Discretion: B07 Discretion: Discretion: Discretion: Discretion: Discretion: Discretion: Discretion: Discretion: Discretion: <thdiscretion:< th=""> Discretion: Discretion:<</thdiscretion:<>	Date: Rpt. No.	2/18/2004 38			ot Ice Proje / Drilling R	1	Anadar	kp ⁱ	A	
Footage This Report 0 Safety: Reviewed spill incidents and discussed permit requirements Total Well Footage Cored 837 Environmental Incidents: On Spill (Non Reportable) see comments. Total Well Footage Cored 837 Drilling Supervisors: C. Watson / T. Tritie Total Well Footage Cored 837 O000 2400 1 This Report 5 O000 2400 24.00 1 River Supervisors: Total Well Footage Cored 837 O000 2400 24.00 1 River Supervisor Total Well Footage Cored 838 O000 2400 24.00 1 River Supervisor Supervisor Total Well Footage Cored Supervisor O000 2400 24.00 1 Tritie More Pice Total Supervisor More Supervisor Supervisor Supervisor Supervisor Supervisor Supervisor <	Operation @	0100 AST:	Broke Tour -	Night Crew is	shifting ba	ick to Days -	continue to	o R/D	200	
Safety: Reviewed spill incidents and discussed permit requirements Total Weil Footage Core 997 Environmental Incidents: One Spill (Non Reportable) see comments. Total Weil Footage Core 837 Drilling Supervisors: C. Watson / T. Tirlia Kore Recovery Percentage 83.0% Prom To Hours IADC Code Activity Time Summary 83.0% 0000 2400 1 Rich pump manifold and kill lines. R/D accumulator lines and store in box container. Nupple down BOP's but did not remove all studs. Heat cellar, chip ice and cleanout cellar. R/D tech reas and hums. 5' pipe tube, 3 1/2' pipe tube, 1 1/2' square tubing, and misc plastic and steame to panel. Back load and send to Deadhorse 4 laboration and AOMS and pack same. Back load and send to Deadhorse 4 laboration and AOMS and pack same. Back load on that bet Cold Storage unit. DrilCod Service Conex, NED E Senard and AOMS and pack same. Back load onk and shore to hox. Back load choke & kill targets. Night crew will switch to day operations starting 2/18. Night crew will switch to day operations starting 2/18. Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Prickup Trucks (5) Airport Rntts Deadhorse Death Laborations Light Plants (6) GBR Ho	Accidents/Inj	juries:	No accidents	or injuries.			C			
Total Well Footage Cored Total Well Footage Cored 233 Core Secovery Percentage 2000 233 Core Secovery Percentage 2000 230 Core Secovery Percentage 2000	Safety:	Reviewed s	oill incidents a	and discussed	permit rec	uirements		Footage II	iis Report	U
Drilling Supervisors: From C. Watson J. T. Thria 0000 2400 24.00 1 R/D pump manifold and kill lines. RD accumulator lines and store in box container. 0000 2400 24.00 1 R/D pump manifold and kill lines. RD accumulator lines and store in box container. 0000 2400 24.00 1 R/D pump manifold and kill lines. RD accumulator lines and store in box container. 0000 2400 24.00 1 R/D pump manifold and kill lines. RD accumulator lines and store in box container. 0000 2400 24.00 1 Ref accumulator lines. 011 Ref accumulator lines. RD pump manifold and kill lines. RD accumulator lines. 011 Ref accumulator lines. RD accumulator lines. RD accumulator lines. 011 Ref accumulator lines. RD accumulator lines. RD accumulator lines. 011 Ref accumulator lines. RD accumulator lines. RD accumulator lines. RD accumulator lines. 011 Ref accumulator lines. RD accumulator lines. RD accumulator lines. RD accumulator lines. RD accumulator lines. 1 Ref accumulator lines. RD accumulator lines. RD accumulator lines. RD accumulator lines. RD accumulator lines. 1 Ref accumulator lines. RD accumulator lin	<u>,</u>						То	tal Well Foota	age Cored	897
Drilling Supervisors: C. Watson T. Tirlia 0000 2400 24.00 1 R/D pump manifold and kill lines. R/D accumulator lines and store in box container. Nipple down BOP's but did not remove all studs. Heat cellar, chip ice and cleanout cellar. R/D remote station accumulator panel. Back load and send to Deadhorse 4 ab units. G* pipe tube, 31/2* pipe tube, 11/2* square tubing, and misc plastic and steel pipe. Finish R/D NED. Pason and AGNS and pack same. Back load and send to Deadhorse 4 ab units. G* pipe tube, 31/2* pipe tube, 11/2* square tubing, and misc plastic and steel pipe. Finish R/D NED. Pason and AGNS and pack same. Back load and send to Deadhorse Accord equipment. Clean pipe storage area and lab area. Apply heat to choke and kill lines to store in box. Back load choke & kill targets. Night crew will switch to day operations starting 2/18. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) Piblotel Deadhorse Depth Inclination Temp Time In Out Security Guard Shack (1) Artol (ce #1 Inclination Temp. Inclination Im Inclination Temp. Inclination Inclin	<u>Environment</u>	al Incidents:	One Spill (No	on Reportable)	see comm	ents.				
From To Hours IADC Code Activity Time Summary 0000 2400 24.00 1 Refuge the pump manifold and kill lines. RD accumulator lines and store in box container. Nipple down BOP's but did not remove all studs. Heat cellar, chip ice and cleanout cellar. RD remote station accumulator panel. Back load and send to Deadhorse 4 lab units. S' pipe tube, 31/27 pipe tube, 11/27 square plastic and steet pipe. Finish R/D NED, Pason and AOMS and pack same. Back load and send to Deadhorse 4 lab units. S' pipe tube, 31/27 pipe tube, 51/27	Drilling Supe	rvisors:	C. Watson /	T. Tirlia			001	e Necovery P	ercentage	33.070
box container. Nipple down BOP's but did not remove all studs. Heat cellar, chip ice and cleanout cellar. R/D remote station accumulator panel. Back Nodat and send to Deadhorse 4 lab units, 5" pipe hube, 3 1/2" pipe hube, 11/2" square tubing, and misc plastic and steel pipe. Finish R/D NED, Pason and AGMS and pack same. Back Nodat and send to Deadhorse 4 lab units, 5" pipe hube, 3 1/2" pipe hube, 31/2" pipe hube, 31/2" pipe hube, 32 might case. Berk Noda dots and the Cold Storage unit, DillCool Service Conex, NED Smart ng components, Pason equipment. ACMMS gas detection 5" pipe hube, 32 might case. Berk Noda dots and pack same. Back Noda dots and pack same. Back Noda dots and pack same. Back Noda dots and pack same. Back Noda dots and pack same. Back Noda dots and pack same. Back Noda dots and pack same. Back Noda dots and pack same. Back Noda dots and pack same. Night crew will switch to day operations starting 2/18. Night crew will switch to day operations starting 2/18. Pickup Trucks (3) Airport Rntis Pastoner Van (1) Pibridel Pickup Trucks (3) GBR Got Graft Not Ice #1 Implement Light Plans (5) GBR Got Graft Not Ice #1 Implement Light Plans (5) GBR Got Graft Not Ice #1 Implement Implement Implement Implement Implement </td <td></td> <td></td> <td>Hours</td> <td></td> <td>Activity Ti</td> <td>me Summar</td> <td>y</td> <td></td> <td></td> <td></td>			Hours		Activity Ti	me Summar	y			
Nipple down BOP's but id not remove all studes index cultar. chip ice and clean cultar. RD remote station accumulator panel. Back load and send to Deadhorse 4 lab units. 5" pipe tube, 3 1/2" pipe tube, 1 1/2" square tubing, and miso plasic and skelp ipe. Finish RD NED, Poson and ACMS and pack same. Back load onto flat bed Coil Storage unit. Difficuo Service Conex, NED Smart 1g components, Pason equipment. A Coll Seg as detection 5" pipe tube, Grey flight case. Berkley X-Ray unitab ottle racks. Continue torig down Swaco Solids Control equipment. Total 24.00 Hours Might crew will switch to day operations starting 2/18. Night crew will switch to day operations starting 2/18. Night crew will switch to day operations starting 2/18. Night crew will switch to day operations starting 2/18. Passenger Van (1) PBHotel Deadhorse Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Image and a set and	0000	2400	24.00	1			kill lines. F	R/D accumulate	or lines and	store in
and cleanout cellar. R/D remote station accumulator panel. Back load and send to Deadhorse 4 lab units, 5" pipe tube, 61 x12" pipe tube, 11/2" square tubing, and misc plastic and steel pipe. Finish R/D NED, Pason and AQMS and pack same. Back load and steel to be choice skitely X-Ray unitand bottle racks. Continue to rig down Swaco Solids Control equipment. Clean pipe storage area and lab area. Apply heat to choke and kill lines to store in box. Back load onto float bottle racks. Continue to rig down Swaco Solids Control equipment. Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Depth Inclination Piscup Trucks (5) Airport Rnits Deadhorse Depth Inclination Temp Piscup Trucks (5) GBR Hot ice #1 Image and and and and and and and and and and										
Back load and send to Deadhorse 4 lab units, 5° ipie lube, 3 1/2° pipe lube, 11/2° square tubing, and misc plastic and steel pipe. Finish R/D NED, Pason and AQMS and pack same. Back load onto flat bed Cold Storage unit, DIIICool Service Conex, NED Smart rig components, Pason equipment & AQMS gas detection 5° pipe tube, Grey flight case. Berkley X-Ray unitand bottle racks. Continue to rig down Swaco Solids Control equipment. Clean pipe storage area and lab area. Apply heat to choke and kill lines to store in box. Back load choke & kill targets. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Time Pickup Tuckis (5) Airport Rnits Deadhorse Depti Inclination Passenger Van (1) PBHotel Deadhorse Depti Inclination Passenger Van (1) PBHotel Deadhorse Image: Security Claurad Shack (1) Arctic Cater Image: Security Claurad Shack (1) Arctic Cater Image: Security Claurad Shack (1) Arctic Cater Manift (1) Airport Rnits Hot Ice #1 Image: Security Claurad Shack (1) Arctic Cater Image: Security Claurad Shack (1) Arctic Cater Med Security Claurad Shack (1) Arctic Cater Mud properties @ 9:00 20:00 Image: Security Claurad Shack (1) Arctic Cater Image: Security Claurad Shack (1) Arctic Cater Image: Security Claurad Shack (1) Arctic Cater Mud properties @ 9:00 20:00 Image: Security Claurad Shack (1) Arctice Cater Image: Security Claurad Shack (1) Ar									-	chip ice
Image: Second State Product Product State Product State Product State Product State Product State Product State Product State Product Prod Product Product Product Product Product Product Product Product										1/2" nine
Finish R/D NED, Pason and AOMS and pack same. Back load onto flat bed Cold Storage unit, Driftool Service Conex, NED Smart rig components, Pason equipment & AQMS gas detection 5° pipe tube, Grey flight case Berkley X-Ray unitand bottle racks. Continue torig down Swaco Solids Control equipment. Clean pipe storage area and lab area. Apply heat to cohke and kill lines to store in box. Back load choke & kill targets. Total 24.00 Hours Rental Equipment Location Data Logger Surves Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntis Deathorse Mud Surface Temp. Micro Passenger Van (1) PBHotel Deathorse Temp Tem Passenger Van (1) PBHotel Deathorse Temp Tem Passenger Van (1) Airport Rntis Deathorse Temp Temp Passenger Van (1) Airport Rntis Deathorse Temp Tem Passenger Van (1) Airport Rntis Temp Tem Temp Go T Crane (1) Peak Hot Ice #1 Ima Ima Heaters (4) 2GBRZVecco Hot Ice #1 Ima Ima Manift (1) Airport Rntis Hot Ice #1 Ima Ima Mud properties @ 9:00 20:00 Wind Ima Mud properties @ 9:00 20:00 Ima Ima Flowli								, ,	,	inz pipe
NED Smart rig components, Pason equipment & AQMS gas detection S ⁺ pipe tube, Grey flight case. Berkley X-Ray unitand bottle racks. Continue to rig down Swace Solids Control equipment. Clean pipe storage area and lab area. Apply heat to cohe and kill lines to store in box. Back load choke & kill targets. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro- Pote Trucks (5) Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro- Pote Trucks (5) Pickup Trucks (5) Airport Rntts Deadhorse Depth Inclination Passenger Van (1) PBHotel Deadhorse Depth Inclination Passenger Van (1) PBHotel Deadhorse Depth Inclination Security Guard Shack (1) Arctic Cater Hot loe #1 Deitor Temp. Security Guard Shack (1) Arctic Cater Hot loe #1 Deitor Temp. Maniff (1) Airport Rntts Hot loe #1 Deitor Temp. Maniff (1) Airport Rntts Hot loe #1 Deitor Strucks Micro Mud properties @ 9:00 20:00 Wind Properties Micro Mud properties @ 9:00 20:00 Wind Fue Lake K209 Mud properties @ 9:00 20:00										
security Guard Shack (1) Artic Cater Hours Security Guard Shack (1) Artic Cater Hours Mud Surface Temp. Micro Rental Equipment Location Data Logger Survys Mud Surface Temp. Micro Piskenger Yun (1) PBHotel Deadhorse Depth Inclination Temp Inclination Total (2) Airport Rntts Deadhorse Depth Inclination Temp Time In Piskenger Yun (1) PBHotel Deadhorse Depth Inclination Temp Time In Security Guard Shack (1) Artic Cater Hot ice #1 In In In Security Guard Shack (1) Artic Cater Hot ice #1 In In Manlift (1) Airport Rntts Hot ice #1 In In Manlift (1) Airport Rntts Hot ice #1 In In Manlift (1) Airport Rntts Hot ice #1 In In Manlift (1) Airport Rntts Hot ice #1 In In Mud properties @ 9:00 20:00 Mind Mind Mud properties @ 9:00 20:00 Kiter Kiter Funnel Visc. In In In In Fueze Point					Back load	onto flat bed	Cold Storag	e unit, DrillCo	ol Service C	Conex,
Total 24.00 Hours Apply heat to choke and kill lines to store in box. Back load choke & kill targets. Night crew will switch to day operations starting 2/18. Night crew will switch to day operations starting 2/18. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Image: Surveys Mud Surface Temp. Micro Pickup Trucks (5) GBR Hot Ice #1 Image: Surveys Image: Surveys Mud Surface Temp. Micro Pickup Truck (5) GBR Hot Ice #1 Image: Surveys Image: Surveys Mud Surface Temp. Micro Pickup Truck (5) GBR Hot Ice #1 Image: Surveys Image: Surveys Image: Surveys Security Guard Shack (1) Artic Cater Hot Ice #1 Image: Surveys Image: Surveys Mainiff (1) Airport Rnits Hot Ice #1 Image: Surveys Image: Surveys Mud properties @ 9:00 20:00 mph Mud properties @ 9:00 20:00 mph Flowline Temp. Image: Surveys Image: Surveys Image: Surveys Mud properties @ 9:00 20:00 Mixed Flowline Temp. Image: Surveys Image: Surveys						•			0	
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Apply heat to choke and kill lines to store in box. Back load choke & kill targets. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rhits Deadhorse Data Logger Surveys Mud Surface Temp. Micro Passenger Van (1) PBHolel Deadhorse Data Logger Surveys Mud Surface Temp. Micro Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination Temp Inclination Temp Inclination Inclination <thinclination< th=""> <thinclination< th=""> Inclin</thinclination<></thinclination<>						•			ment.	
Kill targets. Night crew will switch to day operations starting 2/18. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntis Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHolei Deadhorse Image: Surveys Mud Surface Temp. Micro Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Image: Surveys Mud Surface Temp. Micro Image: Surveys Mud Surface Temp. Micro SoT Crane (1) Peak Hot Ice #1 Image: Surveys Image: Surveys Mud Surface Temp. Micro Manift (1) Airport Rntis Hot Ice #1 Image: Surveys Image: Su						•			Pook lood a	abaka 8
Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntls Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time In Out Beautify Guard Shack (1) Arctic Cater Hot Ice #1 Inclination Temp. Inclination Inclination Temp. Inclinat							Kill lines to	Store in box.	Back load (noke &
Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntls Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time In Out Beautify Guard Shack (1) Arctic Cater Hot Ice #1 Inclination Temp. Inclination Inclination Temp. Inclinat					Night crew	will switch to	day operat	ions starting 2	/18	
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHolel Deadhorse Inclination Temp Time In Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination							uay operat	ions starting zi	10.	
Pickup Trucks (5) Airport Rntis Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse			24.00							
Passenger Van (1) PBHotel Deadhorse Image: Consumables			Airport Datio							
Light Plants (5) GBR Hot Ice #1 Image: Consumables		· · /			Depth	inclination	Temp	Time	1(1	Out
Security Guard Shack (1) Arctic Cater Hot loe #1 Image: Constraint of the second s	U									
S0T Crane (1) Peak Hot Ice #1 Image: constraint of the second										
Manifit (1) Airport Rntis Hot Ice #1 Image: Consumables	Heaters (4)		2GBR/2Veco	Hot Ice #1						
Image: Second second	50T Crane (1))		Hot Ice #1						
Image: second	Manlift (1)		Airport Rntls	Hot Ice #1	_					
Image: second										
Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW						DEIOW F.				
Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW	-				-	mph				
Mud properties @ 9:00 20:00 MW					0103	Impir				
Mud properties @ 9:00 20:00 MW	Daily Mu	ud Report	Time	of day	Chemic	als Mixed				
Funnel Visc. PV Image: Construction of the section of th										
PV Image: constraint of the system of the syst										
YP Image: mode of the system of										
F/L Image: Chlorides(mg/l)/Ca++ Image: Chlorides(mg/l)/Ca++ Chlorides(mg/l)/Ca++ Image: Chlorides(mg/l)/Ca++ Image: Chlorides(mg/l)/Ca++ %KCL Hot Ice Main Wtr. Hot Ice %Hot Ice Main Wtr. Hot Ice K209 Lake %Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) Previous Balance 3,052 1,470 3,757 6,036 79,380 4,380 Daily Usage or made Image: Chlorid					-					
Flowline Temp. pHImage: Chlorides(mg/l)/Ca++ %KCL WKCL Freeze PointImage: Chlorides(mg/l)/Ca++ (Cample Cample										
pHImage: constraint of the system										
Chlorides(mg/l)/Ca++ %KCL Freeze PointIHot Ice PotableMain Wtr.Hot Ice GreyStoragePrevious Balance3,0523,2881,470Balance3,2883,2881.470Balance3,2881,4703,7576,03679,3804,380Daily Usage or made48,728Cumulative Usage (est.)48,728	'	•		<u> </u>						
%KCL Freeze PointImage: ConsumablesHot Ice PotableMain Wtr.Lake Hot Ice GreyLake K209 (water- Bbls)Lake K209 (ice chips - yds)Previous Balance3,0521,4703,7576,03679,3804,380Received3,288Image: Consumables3,288Image: ConsumablesImage: Consumables0Daily Usage or madeImage: Consumables48,728Image: Consumables79,3804,380	Chlorid				1					
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Hot Ice PotableHot Ice GreyMain Wtr. StorageHot Ice Fuel(water- Bbls)(ice chips - yds)Previous Balance3,0521,4703,7576,03679,3804,380Received3,2883,288-0Daily Usage or made2,095Cumulative Usage (est.)48,72879,3804,380										
Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) Previous Balance 3,052 1,470 3,757 6,036 79,380 4,380 Received 3,288 3,288 0 0 Daily Usage or made 2,095 Cumulative Usage (est.) 48,728 79,380 4,380			Hotico		Moin Mite	Hotico				
Previous Balance 3,052 1,470 3,757 6,036 79,380 4,380 Received 3,288 3,288 0 Daily Usage or made 2,095 0 Cumulative Usage (est.) 48,728 79,380 4,380	Consumable	e		Hot Ice Grev			•	· ·		
Received 3,288 3,288 - 0 Daily Usage or made 2,095 - 0 Cumulative Usage (est.) 48,728 79,380 4,380					-					
Daily Usage or made 2,095 48,728 Cumulative Usage (est.) 48,728 79,380 4,380				1,710	5,757					
Cumulative Usage (est.) 48,728 79,380 4,380		or made	5,250					-		
On Hand 3,757 7,229	, ,		48,728				79,380	4,380		
	On Hand				3,757	7,229				

<u>Comments:</u> Potable water tank backed flowed during disconnect at the end of filling operations, 20 gals of potable water on dura-mat.

Date: Rpt. No.	2/19/2004 39			ot Ice Proje / Drilling R	1	Anadar	ارب اً	5	
Operation @	0600 AST:	Continue to r	emove Conex			Petroleum Corporation	- 1	25	
Accidents/In	juries:	No accidents	or injuries.			c	urrent Depth	24:00 hrs	2300
Safety:	Daily Safety	Mooting - Por	mits / Commu	nication / C	old Tomps		Footage Th	is Report	0
<u>Salety.</u>	Daily Salety	weeting - Fen				То	tal Well Foota	age Cored	897
Environment	al Incidents:	No Spills				Tota	al Well Core R	ecovered	838
						Core	e Recovery P	ercentage	93.0%
Drilling Supe From	ervisors: To	C. Watson / Hours		Activity Ti	me Summar	v			
0000	2400	24.00	1				ons at 0000 hrs	3 2/19/01.	
							nent onto Trail	er #7.	
					xes Pason eq	•			
					on Enclosure	•	, Air Comp, Sv	vaco Equipi	nent,
						•	Preserve & Pa	lletize Targo	et Blocks.
					le Flow Line				
					•		p From Top o		•
				0			d Catwalk. Ba) pad all
					mud manifold			<i>.</i>	
				Back load	Swaco equipr	ment onto tr	ailer - 2 mud t	anks, 1 cutt	ings
						control pan	el, 2 pallets of	hoses, and	d accum
					1 test pump.	d swinaina a	doors to pipe s	torado area	2 roof
				and 2 wall		a swinging c		torage area	1, 21001
				Commence	e disassemble	e of roof mo	dules.		
	Total	24.00	Hours						
Rental Equip		Airport Rntls	Location Deadhorse	Data Depth	Logger Sur	veys Temp	Mud Sur Time	face Temp. In	Out
Passenger Va	()	PBHotel	Deadhorse	Deptil	Inclination	Temp	TIME		Out
Light Plants (GBR	Hot Ice #1						
Security Guar	d Shack (1)	Arctic Cater	Hot Ice #1						
Heaters (4)	\	2GBR/2Veco Peak	Hot Ice #1 Hot Ice #1						
50T Crane (1) Manlift (2))	Airport Rntls	Hot Ice #1						
				Temp.					I
				20 to 42	below F.				
				Wind					
				0 to 3	mpn				
Daily M	ud Report	Time	of day	Chemic	als Mixed	1			
	perties @	9:00	20:00						
	MW			-					
	Funnel Visc. PV								
	YP			-					
	F/L								
F	Iowline Temp.			4					
Chierie	pH des(mg/l)/Ca++			-					
Chiorie	wKCL			-					
	Freeze Point			1					
						Lake			
		Hot Ice		Main M/r	Hot Ice	K209 (water-	Lake K209 (ice chips -		
Consumable	s	Potable	Hot Ice Grey	Main Wtr. Storage	Fuel	(water- Bbls)	(ice chips - yds)		
Previous Bala				3,757	7,229	79,380	4,380		
Received						3,600	0		
Daily Usage c	or made	1,590	1,700	65	1,193				
Cumulativa	and (act)	E1 000				00 000	1 200		
Cumulative U On Hand	sage (est.)	51,069 3,999	4,116	3,692	6,036	82,980	4,380		

Comments:

Date:	2/20/2004		н	ot Ice Proj	ect	Anadan		5	7
Rpt. No.	40		Dail	y Drilling R	eport	Petroleum Corporation	~	S. P	
Operation @	0600 AST:	Continue to r	emove Conex	Support S	tructure & W	interization	ו		
Accidents/In	<u>juries:</u>	No accidents	or injuries.			C	urrent Depth Footage Th		2300 0
Safety:	Daily Safety M	leeting - Over	head Lifts / Co	mmunicati	on / Permits		Footage II	lis Report	U
							tal Well Foota	-	
Environment	tal Incidents:	No Spills					al Well Core F		838
Drilling Supe	rvieore:	C. Watson /	T. Tirlia			Core	e Recovery P	ercentage	93.0%
From	To	Hours	IADC Code	Activity Ti	ime Summar	v			
0000	2400	24.00	1				oist and H-Bea	am from pip	e storage
							place on timb		
							4 x 12' interm		
					• • •		ift and layout solice platform a		ain
						•	e past high pov	•	10 [.] 30 am
					•		at 11:30am. F		
				on 150T cr					
				0	,		e frame, roof		,
							ble tower roof Backload co		
					• •		er Unit and El		
					•		m PP-2. Disc		
				cable from	waste tank 1	, water tank	LP, bridge cra	ane, koome	y, reserve
				pump 1&2	, waste tank p	oump 1, and	waste tank Ll	Ρ.	
	Total	24.00	Hours		Works 10% ams - Rig Do	wn 90% F	Disassemble 4	10% Load	5%
Rental Equip		24.00	Location		a Logger Sur			face Temp	
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination				
		, aipoirt i aiao	Deddilorse	Deptil	inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse	Deptil	Inclination	Temp	Time	In	Out
Light Plants (5)	PBHotel GBR	Deadhorse Hot Ice #1	Deptil		Temp	Time	In	Out
Light Plants (Security Guar	5)	PBHotel GBR Arctic Cater	Deadhorse Hot Ice #1 Hot Ice #1			Temp	Time	In	
Light Plants (Security Guar Heaters (4)	5) rd Shack (1)	PBHotel GBR Arctic Cater 2GBR/2Veco	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1						
Light Plants (Security Guar	5) rd Shack (1)	PBHotel GBR Arctic Cater 2GBR/2Veco Peak	Deadhorse Hot Ice #1 Hot Ice #1						
Light Plants (Security Guar Heaters (4) 50T Crane (1)	5) rd Shack (1))	PBHotel GBR Arctic Cater 2GBR/2Veco Peak	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp.					
Light Plants (Security Guar Heaters (4) 50T Crane (1) Manlift (2)	5) rd Shack (1))	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42					
Light Plants (Security Guar Heaters (4) 50T Crane (1) Manlift (2)	5) rd Shack (1))	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2)	5) rd Shack (1))	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (5) rd Shack (1)) 1)	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Manual Content Daily C	5) rd Shack (1))	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Manual Content Daily C	5) rd Shack (1)) 1) ud Report operties @ MW	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak Time 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Manual Content Daily C	5) rd Shack (1)) 1) ud Report operties @ MW Funnel Visc.	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak Time 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Manual Content Daily C	5) rd Shack (1)) 1) ud Report pperties @ MW Funnel Visc. PV	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak Time 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Manual Content Daily C	5) rd Shack (1)) 1) ud Report operties @ MW Funnel Visc.	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak Time 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro	5) rd Shack (1)) 1) ud Report pperties @ MW Funnel Visc. PV YP	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak Time 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro	5) rd Shack (1)) 1) 1) ud Report pperties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro	5) rd Shack (1)) 1) 1) ud Report perties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro	5) rd Shack (1)) 1) 1) ud Report 1) 1) 1) 1) 1) 1) 1) 1) 10 10 10 10 10 10 10 10 10 10 10 10 10	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.				
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro	5) rd Shack (1)) 1) 1) ud Report perties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.	Lake			
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro	5) rd Shack (1)) 1) 1) ud Report 1) 1) 1) 1) 1) 1) 1) 1) 10 10 10 10 10 10 10 10 10 10 10 10 10	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1	Temp. 20 to 42 Wind 5 to 15	below F.		Lake K209		
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mi Mud pro	5) rd Shack (1)) 1) 1) ud Report perties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00 9:00	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00	Temp. 20 to 42 Wind 5 to 15 Chemic	below F. mph cals Mixed	Lake K209 (water-	Lake K209 (ice chips -		
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro	5) rd Shack (1)) 1) 1) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00 9:00 Hot Ice Potable	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Of day 20:00	Temp. 20 to 42 Wind 5 to 15 Chemic Main Wtr. Storage	below F. mph cals Mixed	Lake K209 (water- Bbis)	Lake K209 (ice chips - yds)		
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro F Chlorice Previous Bala	5) rd Shack (1)) 1) 1) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00 9:00 Hot Ice Potable 3,990	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 20:00	Temp. 20 to 42 Wind 5 to 15 Chemic	below F. mph cals Mixed Hot Ice Fuel 6,036	Lake K209 (water- Bbls) 82,980	Lake K209 (ice chips - yds) 4,380		
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro Frevious Bala Received	5) rd Shack (1)) 1) 1) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s ance	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00 9:00 Hot Ice Potable 3,990 2,400	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 20:00 20:00 Hot Ice Grey 4,116 4,500	Temp. 20 to 42 Wind 5 to 15 Chemic Chemic Main Wtr. Storage 3,692	Hot Ice Fuel 6,036 539	Lake K209 (water- Bbis)	Lake K209 (ice chips - yds)		
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mu Mud pro F Chlorice Previous Bala	5) rd Shack (1)) 1) 1) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s ance or made	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00 9:00 9:00 9:00 9:00 9:00 9:00 9:0	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 20:00	Temp. 20 to 42 Wind 5 to 15 Chemic Main Wtr. Storage	Hot Ice Fuel 6,036 539	Lake K209 (water- Bbls) 82,980	Lake K209 (ice chips - yds) 4,380		
Light Plants (Security Guar Heaters (4) 50T Crane (1 Manlift (2) 150T Crane (Daily Mi Mud pro Chlorid Previous Bala Received Daily Usage of Cumulative U On Hand	5) rd Shack (1)) 1) 1) ud Report operties @ MW Funnel Visc. PV YP F/L Flowline Temp. pH des(mg/l)/Ca++ %KCL Freeze Point s ance or made	PBHotel GBR Arctic Cater 2GBR/2Veco Peak Airport Rntls Peak 9:00 9:00 9:00 9:00 9:00 9:00 9:00 9:0	Deadhorse Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 Hot Ice #1 20:00 20:00 Hot Ice Grey 4,116 4,500 1,658 1,274	Temp. 20 to 42 Wind 5 to 15 Chemic Main Wtr. Storage 3,692 3,692 0	Hot Ice Fuel 6,036 539 1,451 5,124	Lake K209 (water- Bbls) 82,980 1,050 84,030	Lake K209 (ice chips - yds) 4,380 0 4,380		

Comments: Due to the cold conditions on the slope the 150T crane did not depart Deadhorse until 0515 hrs on 2/20 due to hydraulic problems and a leaking seal. The crane was originally suppose to be on location AM 2/19.

A water release (NR) occurred while taking on potable water as water spray was observed from the potable water line inlet. An EH&S report will follow on 2-21-04.

Date: 2/21/2004 Rpt. No. 41			lot Ice Proje y Drilling R		Petroleum Corporation	le ¹	e e	
Operation @ 0600 AST:	Remove Con	ex Support St	ructure & D)isassemble	Winterizati	on		
Accidents/Injuries:	No accidents	or injuries.			C	urrent Depth Footage Th		
Safety: Daily Safety M	leeting - Over	head Lifts / Co	ommunicati	on / Permits				
						tal Well Foot	-	
Environmental Incidents:	No Spills					al Well Core F e Recovery P		
Drilling Supervisors:	C. Watson /	T. Tirlia			COR	e Recovery P	ercentage	93.0 /0
From To	Hours	IADC Code	Activity Ti	me Summar	у			
0000 2400	24.00	1	Disassemb loading con tion. Removed I Southside. container co	ole Eastside r ntainer and di nine pairs x 1 Removed tw connection cla	oof and tow spose of tra 4' and three vo intermedi amps.	ne under towe er wind break. Ish and scrap pairs x 8' ang late x 12' on ro duding Mud Pi	Commend metal from gle iron upri pof. Remov	ce winteriza- ghts on /e 3 pairs
			Shaker, 2 : Pit. Back lo Cleaned of the handra and the se Placed in c 20 ea 12" l	x Centrifuges bad an assort ut two 20' cor ils in one con cond containe	, Solids Con ment of ang itainers that tainer and a er is now en " heater true	trol Power Pa le iron for sup was sent fron aluminum decl npty (to be fille nks, 3 ea 20"	nel, and Ac porting strun Deadhors king in one ed).	ctive Mud icture. e. Placed container
Total	24.00	Hours			wn 100%	Disassemble	70% Loa	d 50%
Rental Equipment		Location		a Logger Sur			face Temp	
Pickup Trucks (5)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (1) Light Plants (5)	PBHotel GBR	Deadhorse Hot Ice #1						
Security Guard Shack (1)	Arctic Cater	Hot Ice #1						
Heaters (4)	2GBR/2Veco	Hot Ice #1						
50T Crane (1)	Peak	Hot Ice #1						
Manlift (2)	Airport Rntls	Hot Ice #1	Tama					
150T Crane (1)	Peak	Hot Ice #1	Temp. 15 to 25	helow F				
			Wind	DCIOW I .				
			15 to 30	mph				
				-				
Daily Mud Report		of day	Chemic	als Mixed	l			
Mud properties @ MW	9:00	20:00	-					
Funnel Visc			1					
PV	/							
YF	-		4					
F/L	-		4					
Flowline Temp pF			-					
Chlorides(mg/l)/Ca++			1					
%KCI	_]					
Freeze Poin	t			1			I	
	Hot Ice		Main Wtr.	Hot Ice	Lake K209 (water-	Lake K209 (ice chips -		
Consumables	Potable	Hot Ice Grey		Fuel	Bbls)	yds)		
Previous Balance	5,100	4,116	0	5,124	84,030	4,380		
Received	4 000	1.00-		4.100		0	ļ	
Daily Usage or made Cumulative Usage (est.)	1,036 53,395	1,960		1,123	84 020	1 200	ļ	
On Hand	4,064	2,156	0	4.001	84,030	4,380	l.	
<u>Comments:</u> Due to high wi	,	,		,	ditions the A	OT	I	

Comments: Due to high winds, working at high heights and potential slippery conditions, the 50T crane and Iron Workers stopped work at 1:30 PM and 3:00 PM respectively.

Date: 2/22/2004 Rpt. No. 42			ot Ice Proje y Drilling R		Anadar	kp ⁱ	5	
Operation @ 0600 AST:	Start Removi	ng Conex on :		-	Petroleum Corporation	-	200	
		-						
Accidents/Injuries:	No accidents	or injuries.			C	urrent Depth Footage Th		2300 0
Safety: Daily Safety M	leeting - Overl	head Lifts / Co	ommunicati	on / Walking	on Pad	i ootage ii		
						tal Well Foota		897
Environmental Incidents:	No Spills					I Well Core F		838
Drilling Supervisors:	C. Watson /	T. Tirlia			Core	e Recovery P	ercentage	93.0%
From To	Hours	IADC Code	Activity Ti	me Summar	у			
0000 2400	24.00	1				rame. Load w		
					•	ast wall, 1 und tainer and ele		
			· ·			pace), 1 x 40'		
			-		•	Workshop ar		
						4 x 40' l-Bean , and 3 x 14' ir		
				•	•	vaco. Offload		
			compresso	r, ACS pit line	ers, and Tra	insformer 480		
					,	Disconnect pov		
						Ray LP. Disc #2, Dynatec P		
				s container.		+2, Dynatee i		ci, and
					•	40' Water Sto	•	
						trailers for sh	•	
			-	on panels & 2		x40' Winteriza Veco Iro	on Work 40 %	
Total	24.00	Hours		•		Disassemble 1		-
Rental Equipment		Location		Logger Sur			face Temp.	_
Pickup Trucks (5) Passenger Van (1)	Airport Rntls PBHotel	Deadhorse Deadhorse	Depth	Inclination	Temp	Time	In	Out
Light Plants (5)	GBR	Hot Ice #1						
Security Guard Shack (1)		Hot Ice #1						
Heaters (4) 50T Crane (1)	2GBR/2Veco Peak	Hot Ice #1 Hot Ice #1						
Manlift (2)		Hot Ice #1						
150T Crane (1)	Peak	Hot Ice #1	Temp.					
			15 to 25	below F.				
			Wind 15 to 30	mph				
			101000	Inpri				
Daily Mud Report	Time	of day	Chemic	als Mixed				
Mud properties @	9:00	20:00	-					
MW Funnel Visc.	-		-					
PV]					
YP			4					
F/L Flowline Temp	-		-					
pH	-		1					
Chlorides(mg/l)/Ca++]					
%KCL								
Freeze Point	•				Lake			
					K209	Lake K209		
Concernable -	Hot Ice	Hat las Ores	Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumables Previous Balance	Potable 4,064	Hot Ice Grey 2,156	Storage 0	Fuel 4,001	Bbls) 84,030	yds) 4,380		
Received	-,004	2,100		י סט,ד	57,000	4,300		
Daily Usage or made	1,270	1,078	1	1,404				
		,		,				
Cumulative Usage (est.) On Hand	54,665 2,794	3,234	0	2,597	84,030	4,380		

<u>Comments:</u> Snow blower to arrive 2-20-02 PM to maintain road and pad to prevent severe snow drifting.

Operation Q 0600 AST: Continue to remove conex's Current Depth 24:00 hrs 2000 Safety: Daily Safety Meeting - Overhead Lifts / Communication / Walking on Pal Total Well Footage Cored 2330 Safety: Daily Safety Meeting - Overhead Lifts / Communication / Walking on Pal Total Well Footage Cored 2330 Environmental Incidents: No Spills Total Well Core Recovered 333 Core Recovery Percentage 3.0% 2400 1 Released Maska Dreams winter/zation crew. Removed 10 and Val angle iron urprights. Core Recovery Percentage 3.0% Diffing Supervisors: C. Watson / T. Tirlis Removed 10 and College Corel Lifes 132. Closen 1 0000 2400 1 Released Maska Dreams winter/zation crew. Remove and college Colleg	Date: Rpt. No.	2/23/2004 43			lot Ice Proje y Drilling R	4	Anacian Petroleum Corporation	кф ¹	2	
Safety: Desily Safety Meeting - Overhead Lifts / Communication / Walking on Pad Total Well Footage Cored 897 Environmental Incidents: No Spills Total Well Footage Cored 897 From To Hours IACC Code Activity Time Summary 30.9% 0000 2400 1 Reinoved 17 pairs of 4" angle iron uprights. Removed 17 pairs of 4" angle iron uprights rand 1 to 21 citemas 30.9% 0000 2400 1 Removed 17 pairs of 4" angle iron uprights. Removed 17 pairs of 4" angle iron uprights rand 1 to 21 citemas 30.9% 0000 2400 1 Removed 17 pairs of 4" angle iron uprights. Removed 10 pairs of 4" angle iron uprights rand 1 to 21 citemas 30.9% 0000 2400 1 Removed 10 pairs of 4" angle iron uprights rand 1 to 21 citemas Removed 10 pairs of 4" angle iron uprights rand 1 to 21 citemas Removed 10 pairs of 4" angle iron uprights rand 1 to 21 citemas Removed 10 pairs of 4" angle iron uprights rand 1 to 21 citemas Removed 10 pairs of 4" angle iron uprights rand 1 to 21 citemas Removed 10 pairs of 4" angle iron uprights rand 1 to 21 citemas Removed 10 pairs of 4" angle iron uprights rand to an angle iron uprights rand to an angle iron uprights rand to an angle iron upright rand shartalis, and small walkway. Prepare and heat ng to la	Operation @	0600 AST:	Continue to r	emove conex	's					
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Image: Consumables Provide Carlow Figure 2-23-04 Dynates constandby rig rate. Disconnect power, cut and remove cable from front and back stairs and builrais outlets. Pick up cones around location, clean out blue conex and police location. Total 24.00 Hours Veco from Works Job 80% Electrical: 52% Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntis Deadhorse Dapth Inclination Temp Time In Out Passenger Van (1) PBHotei Deadhorse Dapth Inclination Temp Time In Out Passenger Van (1) PBHotei Deadhorse Dapth Inclination Temp Time In Out Security Guard Shack (1) Arctic Cater Hot loc #1 Inclination Inclination Inclination 50T Crane (1) Peak Hot loc #1 Inclination Inclination Inclination Muintifi (2) Airport Rntis Hot loc #1 Inclination Inclination Inclination 150T Crane (1) Peak Hot loc #1 Inclination Inclination Inclination Muintifi (2) Airport Rntis Hot loc #1 Inclination Inclination Flowinin Temp. Inclination<							,	et Lovdown	mast at 190	0 bro
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Passenger Van (1) PBHotel Deadhorse Image: Construct of the second s	Rental Equip	ment		Location	Data	a Logger Sur	veys	Mud Sur	face Temp	. Micro
Light Plants (5) GBR Hot Ice #1 Image: Consumables		. ,			Depth	Inclination	Temp	Time	In	Out
Security Guard Shack (1) Arctic Cater Hot Ice #1 Image: Constraint of the image: Constraint of th										
Heaters (4) 2GBR/2Veco Hot Ice #1 Image: Conservation of the image: Conservation		,	-							
50T Crane (1) Peak Hot Ice #1 Image: marked background bac										
150T Crane (1) Peak Hot Ice #1 Temp. 15 to 25 15 to 25 Image: Second Secon	50T Crane (1))	Peak							
Instrume Instrume Instrume Below F. Implement Instrume Instrume Instrume Instrume Daily Mud Report Time of day Chemicals Mixed Instrume Instrume Mud properties @ 9:00 20:00 Instrume Instrume Instrume MW Instrume Instrume Instrume Instrume Instrume PV Instrume Instrume Instrume Instrume Instrume Flowline Temp. Instrume Instrume Instrume Instrume Instrume Chlorides(mg/l)/Ca++ Instrume Instrume Instrume Instrume Instrume KCL Instrume Instrume Instrume Instrume Instrume Previous Balance 2.754 3.234 0 2.597 84.030 4.380 Paily Usage or made 1.282 1.200 1.123 Instrume Instrume On Hand 4.972 630 0 1.474 Instrume					L					
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Image: consumables Post consumable						DEIOW F.				
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Mud properties @ 9:00 20:00 MW										
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			1,012			1,114			I	

Date: Rpt. No.	2/24/2004 44			lot Ice Proje y Drilling R		Anaclar Petroleum Corporation	kæ'		
Operation @	0600 AST:	Layout BOP's	5						
Accidents/In	juries:	No accidents	or injuries.			C	urrent Depth		
Safety:	Daily Safety M	eetina - Trip H	- Hazards / Lool	k Up / Crane	Acticity		Footage TI	nis Report	0
<u>,-</u>	,,				, ,	То	tal Well Foot	age Cored	897
Environment	al Incidents:	No Spills					al Well Core F		838
Drilling Supe	ervisors:	C. Watson /	T. Tirlia			Cor	e Recovery P	ercentage	93.0%
From	To	Hours	IADC Code	Activity Ti	me Summar	у			
0000 Rental Equip Pickup Trucks		24.00 24.00 Airport Rntls	1 Hours Location Deadhorse	APC-004, 2 APC-006, 4 Pump unit, Removed a (APC-012) and 10) Dia Rig down a pad. Remo with legs, s Removed a Lay liner & Diesel Stor Pull cables Storage co Backload 1 ladder, pile Veco Iron N	2) 20' Waste 1 4) 40' Reserv and 6) 20' W and set on pa , 8) Company esel Storage and move off oved and bac tairs, V-door and backload berm contair rage tank in c from trays an ntainer. Veco Heaten	Fluid Storage e Mud Stora /aste Tank (ad the follow / Man Office Tank (APC- Dynatec Dri kload Dyna and misc to ed Weather ment of Die containment. nd place cal r, Peak Ran 0 %	ing conex's: 7 e (APC-010), 9 002). Illing Rig. Rer tec Substructu ols and parts. ford Accumula esel Storage ta Set up Com ble in boxes. 0 np, Stairs w/pl Electrical:	e Handling L), 5) 40' Dyr) 20' Space 2) ACS Stor noved legs ure and wor ator. ank. Move pany Drilling Connect to I	Jnit natec Mud r Spare age Unit, and set on k basket g office. Diesel scape
Passenger Va	· · /	PBHotel	Deadhorse	Doptii	monnution	remp	11110		out
Light Plants (GBR	Hot Ice #1						
Security Guar Heaters (3)	d Shack (1)	Arctic Cater 1GBR/2Veco	Hot Ice #1						
50T Crane (1))	Peak	Hot Ice #1						
Manlift (2)	/		Hot Ice #1						
150T Crane (1)	Peak	Hot Ice #1	Temp.					II
,	/			15 to 25	below F.				
				Wind					
				10 to 20	mph				
	ud Report		of day	Chemic	als Mixed				
Mud pro	operties @	9:00	20:00	4					
	MW Funnel Visc.			-					
	PV			-					
	YP								
	F/L			-					
F	lowline Temp.								
	pH								
Chlorid	des(mg/l)/Ca++			1					
	%KCL			-					
	Freeze Point					Laka	1	1	
Consumable	s	Hot Ice Potable	Hot Ice Grey	Main Wtr. Storage	Hot Ice Fuel	Lake K209 (water- Bbls)	Lake K209 (ice chips - yds)		
Previous Bala	ince	4,972	630	0	1,474	84,030	4,380]	
Received		-					0	ļ	
Daily Usage of		816	644		1,050				
Cumulative U	sage (est.)	55,481	4.0= 1	-		84,030	4,380	ļ	
On Hand Comments:		4,156	1,274	0	424			1	
	co Iron Works at					1 \ /: -:+	I		

<u>Comments:</u> Released Veco Iron Works at 3PM 2-24-04. Leon Lynch w/ADNR visited site. Good Visit. Expected to receive fuel late 2-24-04, cost and volumes not included on today's report.

Operation @ 1600 AST: Continue to Clear Deck, Offload Generator Accidental/Injuries: No accidents or injuries. Current Depth 24:00 https://operator.com/ope	Date: Rpt. No.	2/25/2004 45			ot Ice Proje y Drilling R		Anadar Petroleum Corporation	кр ¹	E.	
Safety: Daily Safety Meeting - Trip Hazards / Grane Acticity / End of Hitch Total Well Footage Cond Total Well Core Recovered 333 Environmental Incidents: No Spills Total Well Core Recovered 333 877 Total Well Core Recovered 330.0% Drilling Supervisors: C. Watson / T. Tirlia From To Total Well Core Recovered Core Recovered and Cadout same. Backkoad of % 11 % DS and tool fattbed. Cutoff 9 58° 8.7° and toadout same. Backkoad 0° % 11 % DS had tool box. Backkoad Dowell cement unit and enclosure. Loadout Balles of Pile Setting Jacks. 2 patiels of Alter Patienton Munimum pos, 1 x vertical ladder, 1 bundle of fiberglass grading and 2 bundles of pilling Spool 1 x 6° x 11 DS A.2 sets 0 Alter Patienton Munimum pos, 1 x vertical ladder, 1 bundle of fiberglass grading and 2 bundles of pilling Spool 1 x 6° x 11 DS A.2 sets 0 And tool box. Backkoad Dowell cement unit and enclosure. Loadout 8 and explument Back toad Dowell Buk Sito. Backkoad the remaining l-Beams and angle iro. Disconnect telecoms on platform, pickup and layout. Install telecoms and power to Company Mans office, Lebcoms unit and electricians workshop. Total 24.00 Hours Clean Back 40%. Electricians workshop. Clean and police location. Conduct prejob safety meeting prior to cleaning deck. Shovel and clean Deck with Bobcat. Porkup Trucks (5) Alirport Rints Deckhorse Depth Light Plants (5) GBR Hoti to #1 Inclination Mod soft (2) Dality Mud Report Time of day C	Operation @	0600 AST:	Continue to (Clear Deck, Of	fload Gene	rator				
Safety: Daily Safety Meeting - Trip Hazards / Crane Acticity / End of Hitch Total Well Footage Cored Total Well Core Recovered Core Recovery Percentage 837 33.0% Drilling Supervisors: From C. Watson / Total T. Trila Hours ADC Code Activity Time Summary 838 Core Recovery Percentage 837 83.0% 0000 2400 2400 1 Finish ND 13 58" and Lark Safe Activity Time Summary 836 Core Recovery Percentage 837 83.0% 0000 2400 2400 1 Finish ND 13 58" and Lark Safe Activity Time Summary 837 83.0% 0000 2400 2400 1 Finish ND 13 58" and Lark Safe Activity Time Summary 1 837 83.0% 1 2 2 2 0 1	Accidents/Inj	juries:	No accidents	or injuries.			c			2300
Environmental Incidents: No Spills Total Weil Footage Cored Total Weil Footage Cored Core Recovery Percentage 233 30,55 Drilling Supervisors: C. Watson / T. Tirlia Hours IADC Code Activity Time Summary Hours Total Weil Footage Cored Core Recovery Percentage 24:00 338 30,55 0000 24:00 1 Finish NU 13 367 "double rams, drilling spool, withree manuals and 1 HCR valves and backload on to flatbed. Cutoff 9 5/8" A7" and loadout same. Backload free This NDS And tool box. Blackload Davell cernent unit and enclosure. Loadout y Bailes of Platbe Setting Jacks, 2 pallets of Arlic Platform Aluminum pos, 1 x vertical liadder, 1 bundle of fibergiass grading and 2 bundles of playwoot. Finishing loading out Weatherford equipment. Accumulator unit. Remote station. 13 5/8" annular. 13 5/8" Double Ram. Dilling Spool 1 x 6" x 11" DSA, 2 eet of ram blocks, and misc tools and equipment Back load Davel I bundles like. Showel and leadout unit. Remote station. 13 5/8" annular. 13 5/8" Double Ram. Dilling Spool 1 x 6" x 11" DSA, 2 eet of ram blocks, and misc tools and equipment Back load Davel I bundles like. Showel and clean Deck with Bobbcat. Clean Deck 40% Electrical: 80% Rental Equipment Location Location Detai Logger Surveys Mud Surface Temp. Micro Prickup Tucks (5) Prickup Tucks (5) Aliport Rntis Deadnorse Deptit Inclination Deadonse Deptit Inclination Temp Security Guard Shack (1) Aretic car #1 Location Prickup Tucks (5) Priport Rntis Deadnorse De	Safoty:	Daily Safety M	ooting - Trin k	lazarde / Cran	o Acticity /		•	Footage TI	nis Report	0
Drilling Supervisors: C. Watson T. Tirlis Muns M.D.C. Code Activity Time Summary 0000 2400 24.00 1 Finish NU 13 58° 4nular, 13 58° double rams, drilling spool, withree manualis and 1 HCR valves and backload onto flatbed. C.U.E. Classifier and the consure. Loadvoid pallets of Pile Setting Jacks. 2 pallets of Aric Paltorn Aluminum pos. 1 x vertical ladder, 1 bundle of fibergiass grading and 2 bundles of physiod. Exclusion 2 participant, and the cosure. Loadvoid to pallets of Pile Setting Jacks. 2 pallets of Aric Paltorn Aluminum pos. 1 x vertical ladder, 1 bundle of fibergiass grading and 2 bundles of physiod. 1 x 6° x 11° DSA, 2 sets of ram blocks, and miss tools and equipment Back load Dowell Bulk Sile. Backload the remaining i-Beams and angle ron. Disconnect telecoms on platform, pickup and layout. Install telecoms and opower to Company Man's office, telecoms unit and electricairs's workshop. Clean Deck 100° Electrical: B0% Rental Equipment Passenger Van (1) Deltotic Deadhorse Depth Inclination Passenger Van (1) BHotde Deadhorse Depth Inclination Passenger Van (1) BHotde Deadhorse Depth Inclination Clean Deck W1 Bolcat Inclination Imp Imp Passenger Van (1) BHotde Deadhorse <t< td=""><td><u>Salety.</u></td><td>Daily Salety M</td><td>eeting - mp i</td><td></td><td>le Acticity /</td><td></td><td></td><td>tal Well Foot</td><td>age Cored</td><td>897</td></t<>	<u>Salety.</u>	Daily Salety M	eeting - mp i		le Acticity /			tal Well Foot	age Cored	897
Drilling Supervisors: C. Watson / T. Tirlia 0000 2400 24.00 1 Finish NID 13 50° annular, 13 50° double rans, drilling spool, withree manuals and 1 HCR valves and backload onto fathed. 0000 2400 1 Finish NID 13 50° annular, 13 50° double rans, drilling spool, withree manuals and 1 HCR valves and backload onto fathed. 0000 2400 1 Finish NID 13 50° annular, 13 50° double rans, drilling spool, withree manuals and 1 HCR valves and backload onto fathed. 0000 2400 1 Finishing loading out Weatherford equipment. Accurator the paties of Pile Section 2 and a 2 bundles of pilvood. Finishing loading out Weatherford equipment. Accurator the remaining I-Beams and angle iron. Duble coms and algour thistall telecoms and power to Company Man's office, telecoms unit and electrician's workshop. Clean back 40% Clean back 40% Electrical: 60% Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pilvip Pilvipi Inclination Pisconger Van (1) PBHotel Deathorse Deptil Inclination Temp. Inclination 1501 Crane (1) Peak Hot toe #1 Inclination Inclination Inclination 1601 Crane (1) Peak Hot toe #1 In	<u>Environment</u>	al Incidents:	No Spills							
From To Hours IADC Code Activity Time Summary 0000 24400 24.00 1 Finish ND 13 5/8" anual: 13 5/8" double rams. dnilling spool. withree manuals and 1 HCR valves and backload onto flatbed. Cut off 95/8" 8" 4" and lacdout same "VI" Site DSA and book. 0000 24.00 1 Finish ND 13 5/8" anual: 13 5/8" VH. Cut Znd conudors and backload onto flatbed. 0000 24.00 1 Finish ND 13 5/8" anual: 13 5/8" VH. Cut Znd conudors and backload Dowel coment unit and enclosure. Loadout 8 pallels of Plie Setting Jacks, 2 pallets of Artic Platform Aluminum pcs, 1 x vertical ladder. 1 bundle of fibergiass grading and 2 bundles of plywood. Finish Imp Iodang Network Site Station. 13 5/8" anual: 13 5/8" Double Ram, Dilling Spool 1 x 6" x 11" DSA, 2 set of ram blocks, and miss tools and equipment Back load Dowel Iocmapm Man's office. Heteoms unit and electrical: and angle ion. Disconnect telecoms on platform, pickup and layout. Install telecoms and popuer to Company Man's office. Heteoms unit and electrical: a 80% Rental Equipment Location Data Logger Surveys Mud Surface Tamp. Micro 14/8" Pelkup Tuckis (6) Airport Rnits Deadhorse Dept Inclination Pelkup Tuckis (6) Airport Rnits Deadhorse Dept Inclination Dight Platei Deadhorse Dept	Drilling Supe	rvisors:	C. Watson /	T. Tirlia			Cor	e Recovery P	ercentage	93.0%
manuals and 1 HCR valves and backload onto fisted. Cutoff 9 56° 8.7° and loadut same and loadut same wi13 56° WH. Cut and conductor and loadut same wi13 56° WH. Cut and conductor and loadut same wi13 56° WH. Cut and conductor and loadut same wi13 56° WH. Cut and conductor and loadut same same tunit and enclosure. Loadout 8 pallets of Pile Setting Jacks. 2 pallets of Artic Platform Aluminum pos. 1 x vertical ladder, 1 bundle of fiberglass grading and 2 bundles of phywood. Finishing loading out Weatherford equipment. Accumulator unit, Remote station, 13 56° anuales, and misc tools and equipment back load Dowell Bulk Sio. Backload the remaining I-Beams and angle iron. Total 24.00 Hours Clean Deck. 40% Electronis Box Rental Equipment Location Data Logger Surveys Mud Surface Term. Micro Pickup Trucks (5) Airport Rnits Deadhorse Depth Inclination Term In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Image Image 150T Crane (1) Peak Hot Ice #1 Image Image Image Image 150T Crane (1) Peak Hot Ice #1 Image Image Image 1600 Grang Mut Raport Time of ay Chemicals Mixed Mud properties @ 9:00 20:00 Image 160T Crane (1) Peak Hot Ice #1 Image 160T Crane (1) Peak Hot Ice #1	From	То								
Culoff 9 56* 8.7* and loadout same w13 56* WI-L cut and conductor and loadout same w13 56* WI-L cut and conductor Backload 2* Davell cement unit and enclosur: Loadout 8 pallets of Pile Setting Jacks, 2 pallets of Artic Platform Aluminum pcs, 1 x vertical ladder, 1 bundle of fiberglass grading and 2 bundles of phywood. Finishing loading out Weatherford equipment, Accumulator unit, Remote station, 13 56* annukar, 13 56* Double Ram, Dhilling Spool 1 x 6* x 1* 105A, 2 sets of ram blocks, and miguing spool 1 x 6* x 1* 10	0000	2400	24.00	1					• •	ol, w/three
Backload Dowell cement unit and enclosure. Loadout 8 pailets of Pile Setting Jacks. 2 pailets of Arice Platform Aluminum pos. 1 × vertical ladder, 1 bundle of fiberglass grading and 2 bundles of plywood. Finishing loading out Weatherford equipment, Accumulator unit, Remote station, 13 5/8" annular, 13 5/8" Double Ram. Dilling Spool 1 × 6" × 11" DSA, 2 sets of ram blocks, and misc tools and equipment Back load Dowell Duik Silo. Backload the remaining I-Beams and angle iron. Disconnect telecoms on platform. pickup and layout. Install telecoms and power to Company Man's office, telecoms unit and electrician's workshop. Clean and police location. Conduct prejob safety meeting prior to cleaning deck. Shovel and clean Deck with Bobcat. Total 24.00 Hours Clean back 20% Electrical: 80% Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Pickup Trucks (5) Airport Rnits Deadhorse Depth Inclination Passenger Van (1) PBHotel Deadhorse Depth Inclination Passenger Van (1) PBHotel to <i>e</i> #1					Cutoff 9 5/	8" & 7" and lo	adout same	e w/13 5/8" WI	H. Cut 2nd o	conudctor
Setting Jacks, 2 pallets of Artic Platform Aluminum pcs, ix vertical ladder, 1 bundle of fiberglass grading and 2 bundles of plywood. Finishing loading out Weatherford equipment, Accumulator unit, Remote station, 13 5/8" annular, 13 5/8" Double Ram, Drilling Spool 1 x 6" x11" DSA. 2 sets of ram blocks, and misc tools and equipment Back load Dowell Bulk Silo. Backload the remaining I-Beams and angle iron. Disconnect telecoms on platform, pickup and layout. Install telecoms and power to Company Marks office, telecoms unit and electrician's workshop. Clean and police location. Conduct prejob safety meeting prior to cleaning deck. Showel and clean Deck with Bobcat. Rental Equipment Location Location Data Logger Surveys Mud Surface Tomp. Nicro Pickup Trucks (5) Passenger Yan (1) PBHotel Deadhorse Deathorse Depth Inclination Security Guard Shack (1) Arctic Cater Hot ice #1 Light Plants (5) GBR Hot ice #1 Sort Crane (1) Peak Hot ice #1 Hot ice #1 Image and and and and and and and and and and										ts of Pilo
Finishing loading out Weatherford equipment, Accumulator unit, Remote station, 13 5/8" nouble Ram, Drilling Spool 1 x 6" x 11" DSA, 2 sets of ram blocks, and misc tools and equipment Back load Dowell Bulk Sile. Backload the remaining I-Beams and angle iron. Disconnect telecoms on platform, pickup and layout. Install telecoms and power to Company Man's office, telecoms unit and electrician's workshop. Total 24.00 Hours Clean and police location. Disconnect telecoms on platform, pickup and layout. Install telecoms and power to Company Man's office, telecoms unit and electrician's workshop. Rental Equipment Location Death Orse Depth Inclination Temp. Micro Pickup Trucks (5) Airport Rutis Deathorse Depth Inclination Temp Time In Pickup Trucks (5) Airport Rutis Deathorse Depth Inclination Temp. Time In Pickup Trucks (5) GBR Hot tee #1 Inclination Temp. Time In Out Pickup Trucks (5) GBR Hot tee #1 Inclination In Out Security Guard Shack (1) Arctic Cater Hot tee #1 Inclination In SoT Grane (1) Peak Hot tee #1 Inclination In Muinift (2) Airport Rutis Not tee #1 Inclination Muinift (2) Airport Rutis Not tee #1 Inclination Funne									•	
Remote Station, 13 5/8° annular, 13 5/8° and misc tools and equipment Back load Dowel Buck Silo. Backload Dowel Buck Silo. Backload Dowel Buck Silo. Backload Dowel Buck Silo. Disconnect telecoms on platform, pickup and layout. Install telecoms and power to Company Man's office, telecoms unit and electrician's workshop. Clean and police location. Conduct prejob safety meeting prior to cleaning deck. Shovel and clean Deck with Bobcat. Pickup Trucks (5) Airport Rntis Deadhorse Electrical: 80% Passenger Van (1) PBHotel Deadhorse Electrical: 80% Total 2.0 Id Bite 2.0 Dott Image: Site 2.0 Mud Surface Temp. Micro Digit Plants (5) GBR Hot ice #1 Image: Site 2.0 Image: Site 2.0 Image: Site 2.0 Manift (2) Airport Rntis Hot ice #1 Image: Site 2.0 Image: Site 2.0 Image: Site 2.0 Mud properties @ 9:00										
Image: Second					•	0				
angle iron. Disconnect telecoms on platform, pickup and layout. Install telecoms and power to Company Man's office, telecoms on that ad electrician's workshop. Total 24.00 Hours Clean and police location. Conduct prejob safety meeting prior to cleaning deck. Shovel and clean Deck with Bobcat. Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotei Deadhorse Depth Inclination Temp Time In Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination In										
Disconnect telecoms on platform, price, upand layout. Install telecoms and power to Company Mar's office, telecoms unit and electrician's workshop. Clean and police location. Conduct prejob safety meeting prior to cleaning deck. Shovel and clean Deck with Bobcat. Total 24.00 Hours Clean Deck: 40% Electrical: 80% Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deathorse Dept Inclination Temp Time In Out Passenger Van (1) PBH hotel Deadhorse Dept Inclination Temp Time In Out Passenger Van (1) PBH hotel Deadhorse Dept Inclination Temp Time In Out Passenger Van (1) PBH kotel Deadhorse Dept Inclination Temp In So T Crane (1) Peak Hot lce #1 In In In Heaters (3) 1GBR/2Veco Hot lce #1 In In In Mainift (2) Airport Rnits Hot lce #1 In In Mud properties @ 9:00 20::00 mph Flowline Temp. In In In PW In Hot lce Yei In P							Silo. Backlo	ad the remain	ing I-Beams	s and
and power to Company Man's office, telecoms unit and electrician's workshop. and power to Company Man's office, telecoms unit and electrician's workshop. Total 24.00 Hours Clean and police location. Conduct prejob safety meeting prior to cleaning deck. Shovel and clean Deck with Bobcat. Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Inclination Temp Passenger Van(1) PBHotel Deadhorse Inclination Temp Imm Security Guard Shack (1) Artcle Cater Hot loce #1 Imm Imm Out Heaters (3) 1GBR/2Veco Hot loce #1 Imm Imm Imm Sourd Shack (1) Artcle Cater Hot loce #1 Imm Imm Heaters (3) 1GBR/2Veco Hot loce #1 Imm Imm Sourd Shack (1) Artcle Cater Hot loce #1 Imm Imm Hot loce #1 Imm Imm Imm Imm 150T Crane (1) Peak Hot loce #1 Imm Imm Muinff (2) Airport Rnits Hot loce #1 Imm Imm Imm Imm Imm Imm Muinff (2) Airport Rnits Hot loce #1 Imm <					•		nlatform n	ickup and lave	ut Install te	lecoms
Image: Clean and police location. Conduct prejob safety meeting prior to cleaning deck. Shovel and clean Deck with Bobcat. Total 24.00 Hours Clean Deck: 40% Electrical: 80% Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rnits Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Depth Inclination Temp Time In Out 50T Crane (1) Peak Hot Ice #1 Depth Delow F. De							•			
Total 24.00 Hours Clean Deck: 40% Electrical: 80% Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntis Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time In Out Security Guard Shack (1) Artic Cater Hot Ice #1 Inclination In										
Total 24.00 Hours Clean Deck: 40% Electrical: 80% Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntis Deadhorse Depth Inclination Temp Incl Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Out Security Guard Shack (1) Artic Cater Hot ice #1 Inclination Temp Inclination Temp Source (1) Peak Hot ice #1 Inclination Temp Inclination Inclination 50T Crane (1) Peak Hot ice #1 Temp Inclination Inclination Inclination Maintif (2) Airport Rnts Hot ice #1 Temp Inclination Inclination Inclination Maintif (2) Airport Rnts Hot ice #1 Temp Inclination Inclination Bally Mud Report Time of day Chemicals Mixed Mind Mind Mind Mind Mind Mind Mind <thm< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>ior to</td></thm<>										ior to
Pickup Trucks (5) Airport Rnitis Deadhorse Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Image: Construct State		Total	24.00	Hours						
Passenger Van (1) PBHotel Deadhorse Image: Construct of the second s										
Light Plants (5) GBR Hot Ice #1 Image: Consumables Hot Ice #1 Image: Consumables Imad		~ /			Depth	Inclination	Temp	Time	In	Out
Security Guard Shack (1) Arctic Cater Hot Ice #1 Image: Constraint of the image: Constraint of th		· · /								
SOT Crane (1) Peak Hot Ice #1 Image: strate intermed anded anded and intermed and intermed anded and intermed and			-							
Manifft (2) Airport Rntis Hot Ice #1 Temp. 150T Crane (1) Peak Hot Ice #1 Temp. 150T Crane (1) Peak Hot Ice #1 Temp. 15 to 25 below F. mph Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 WW	· · · ·									
150T Crane (1) Peak Hot Ice #1 Temp. 15 to 25 below F. Wind wind Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW)								
Instrume Instrume Instrume below F. Implement Implement Implement Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW Implement Implement Funnel Visc. Implement Implement PV Implement Implement Flowline Temp. Implement Implement PH Implement Implement Flowline Temp. Implement Implement PH Implement Implement KCL Implement Implement Freeze Point Implement Implement Previous Balance 4,284 1,274 0 424 84,030 4,380 Received - Implement Implement Implement Implement Implement Implement On Hand 3,180 2,254 0 3,088 Implement Implement		1)			Temp.					
Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW						below F.				
Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW						mah				
Mud properties @ 9:00 20:00 MW					5 to 10	mpn				
MW MW Funnel Visc. PV PV PV YP PV Flowline Temp. PH DH PH Chlorides(mg/l)/Ca++ PKCL Freeze Point Potable Hot Ice Main Wtr. Hot Ice KCL Freeze Point Potable Hot Ice Grey Storage Fuel Bbls) yds) Previous Balance 4.284 1.274 0 3.730 0 Daily Usage or made 1.104 980 Cumulative Usage (est.) 56,873 84,030 On Hand 3,180 2,254 0	Daily Mu	ud Report	Time	of day	Chemic	als Mixed				
Funnel Visc. Image: market marke		operties @	9:00	20:00			•			
PV										
F/L Image Flowline Temp. Image pH Image Chlorides(mg/l)/Ca++ Image %KCL Image %KCL Image Freeze Point Image Hot Ice Main Wtr. Hot Ice Main Wtr. Hot Ice Main Wtr. Previous Balance 4,284 4,284 1,274 Image 3,730 Daily Usage or made 1,104 1,104 980 1,104 980 1,066 Image Mand 3,180 2,254 0 3,088					_					
Flowline Temp. Image: How inclusion of How inclusio		YP								
pHChlorides(mg/l)/Ca++%KCL%KCLFreeze PointHot IceHot Ice GreyPotableHot Ice GreyPrevious Balance4,2844,2841,274042484,0304,380Received-03,73000Daily Usage or made1,10404,2841,10498004,3804,38003,1802,25403,088										
Chlorides(mg/l)/Ca++I%KCLIFreeze PointIHot IceMain Wtr.Hot IceHot Ice GreyPrevious Balance4,2844,2841,274Image: Comparison of Compari	F	-			-					
%KCLImage: constraint of the second seco	Chloric	•			1					
Hot Ice PotableHot Ice GreyMain Wtr.Hot Ice StorageLake K209 (water- Bbls)Lake K209 (ice chips - yds)Previous Balance4,2841,274042484,0304,380Received-3,73000Daily Usage or made1,1049801,066-Cumulative Usage (est.)56,87384,0304,380On Hand3,1802,25403,088-										
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Hot Ice PotableHot Ice GreyMain Wtr. StorageHot Ice Fuel(water- Bbls)(ice chips - yds)Previous Balance4,2841,274042484,0304,380Received3,73000Daily Usage or made1,1049801,066Cumulative Usage (est.)56,873-84,0304,380On Hand3,1802,25403,088-								Lake K209		
Previous Balance 4,284 1,274 0 424 84,030 4,380 Received - 3,730 0 Daily Usage or made 1,104 980 1,066 Cumulative Usage (est.) 56,873 84,030 4,380 On Hand 3,180 2,254 0 3,088							(water-	(ice chips -		
Received - 3,730 0 Daily Usage or made 1,104 980 1,066 - Cumulative Usage (est.) 56,873 84,030 4,380 On Hand 3,180 2,254 0 3,088	-						,	• •		
Daily Usage or made 1,104 980 1,066 Cumulative Usage (est.) 56,873 84,030 4,380 On Hand 3,180 2,254 0 3,088		ince	,	1,274	0		04,030	-		
On Hand 3,180 2,254 0 3,088		or made		980						
	Cumulative U						84,030	4,380		
Lomments.	On Hand Comments:		3,180	2,254	0	3,088				

<u>Comments:</u> Joe Edwards w/CPAI witnessed two loads (Rig and Dowell enclosure unit) passing under the power lines as required.

Date: 2/26/2004 Rpt. No. 46			ot Ice Proje y Drilling R		Anadar Petroleum Corporation	lę p ⁱ	E.	
Operation @ 0600 AST:	Clean deck o	n Northside &	Remove S	teel/Wooden	Planks		20	
Accidents/Injuries:	No accidents	or injuries.			C	urrent Depth Footage Th		2300 0
Safety: Daily Safety M	leeting - Plank	c Removal / Cr	ane Acticit	y / Trip Haza		-		
Environmental Incidents:	No Spills					tal Well Foota al Well Core F	-	897 838
Environmental meidenta.						e Recovery P		93.0%
Drilling Supervisors:	C. Watson /							
From To 0000 2400	Hours 24.00	IADC Code				c material off	deck	
			Remove an for platform wooden pla Disconnect Potable Wa Diesel tank Reconnect	nd backload & n decking. Re anks. t and offload : ater Unit and t. the 40' gene e Duramat (N	30 each 6"xí move and b 20' Generat Diesel Day rator, Grey	3 3/4"x12' 2" n packload 84 ea or, 40' Genera Tank. Prepar Water Unit, Po	netal square ach 6"x12"x ator, Grey W e Liner and	12' 2" wood /ater Unit berm for
			Note: 20' G	Generator was	s loaded on	flatbed to be t	ransferred t	o DH.
Total	24.00	Hours	Clean Dec			Electrical:	90%	
Rental Equipment		Location	1	Logger Sur			face Temp	
Pickup Trucks (5)	Airport Rntls PBHotel	Deadhorse Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (1) Light Plants (5)	GBR	Hot Ice #1						
Security Guard Shack (1)	Arctic Cater	Hot Ice #1						
Heaters (3)	1GBR/2Veco							
50T Crane (1)	Peak	Hot Ice #1						
Manlift (2)	Airport Rntls	Hot Ice #1						
150T Crane (1)	Peak	Hot Ice #1	Temp. 15 to 25	holow F				
			Wind	DEIOW F.				
			0 to 5	mph				
				[b				
Daily Mud Report	Time	of day	Chemic	als Mixed				
Mud properties @	9:00	20:00			-			
MW	-		_					
Funnel Visc.								
PV YP								
F/L								
Flowline Temp								
pH]					
Chlorides(mg/l)/Ca++			-					
%KCL			-					
Freeze Point		<u> </u>			Lake			
					K209	Lake K209		
	Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumables	Potable	Hot Ice Grey		Fuel	Bbls)	yds)		
Previous Balance	3,180	2,254	0	4,154	84,030	4,380		
Received	-					0		
Daily Usage or made Cumulative Usage (est.)							l.	
On Hand	56,873				84,030	4,380		

Comments: Disconnected power at 8am and reconnected at 1:15pm. Two Nordic Drilling Representatives visited the camp @ 1200 hrs.

Date: Rpt. No.	2/27/2004 47			lot Ice Proje y Drilling R		Petroleum Corporation	ke i		
Operation @ 06	<u>00 AST:</u>	Finishing Cle	eaning deck &	Remove St	eel/Wooden	Planks		25	
Accidents/Injuri	ies:	No accidents	or injuries.			c	urrent Depth		2300
<u>Safety:</u> Da	ailv Safetv N	leeting - End o	of Hitch / Crar	ne Acticity /	Trip Hazards	5	Footage Th	iis Report	0
	,,			····,			tal Well Foot	age Cored	897
Environmental	incidents:	No Spills					al Well Core F e Recovery P		838 93.0%
Drilling Supervi		C. Watson /		A - 4114 - T	•			croontage	00.07
From 0000	To 2400	Hours 24.00	IADC Code		me Summar		all misc mater	ial off dock	
0000	2400	24.00	'				3/4"x12' 2" m		
							ackload 84 ea	•	•
					•		18 each wood		
				side of pad					
				Remove el	ectrical cable	trays from	drilling platfor	n.	
							m North, Wes		outh side
				of drilling p	latform. Pack	conex with	handrails and	l electrical t	rays.
				Remove an	nd backload N	Nodule Top	s from Module	's #21, 20,	19, 18, 1
					nd backload v	vest row of	Modules, # 21	, 20, 19, 18	6, 17, 16
				15, & 14.					
	Total	24.00	Hours	Clean Dec	k: 100%		Electrical:	95%	
Rental Equipme			Location		Logger Sur	vevs		face Temp	. Micro
Pickup Trucks (5		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (PBHotel	Deadhorse						
Light Plants (5)		GBR	Hot Ice #1						
Security Guard S	Shack (1)	Arctic Cater	Hot Ice #1						
Heaters (3)		1GBR/2Veco							
50T Crane (1)		Peak	Hot Ice #1						
Manlift (2)		Airport Rntls	Hot Ice #1	_					
150T Crane (1)		Peak	Hot Ice #1	Temp.					
					below F.				
				Wind 0 to 5	mph				
				0105	mph				
Daily Mud	•	Time	of day	Chemic	als Mixed				
Mud prope	<u> </u>	9:00	20:00	_					
-	MW			_					
r I	Funnel Visc.			_					
	PV			_					
	YP F/L			-					
Flor	∟/⊤ wline Temp.			-					
FIU	pH			-					
Chlorides	۳۹ (mg/l)/Ca++			1					
	%KCL			1					
F	Freeze Point								
						Lake			
					11.41	K209	Lake K209		
Congressie		Hot Ice	Hat les Orres	Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumables	0	Potable 2 035	Hot Ice Grey	Storage	Fuel	Bbls) 84,030	yds) 4,380		
Drovieus Palant	5	2,035 2,035	-	0	2,457	04,030	4,380		
Previous Balance Received		2,035					0		
Received	nade	008	1 370		842				
Received Daily Usage or m		890 57 763	1,372		842	84 030	4.380		
Received		890 57,763 3,180	1,372			84,030	4,380		

Date: Rpt. No.	2/28/2004 48			ot Ice Proje y Drilling R		Anadar Petroleum Corporation	ke ⁱ					
Operation @	<u>0300 AST:</u>	Laying down	Pile #29 (Tota	il 5)				25				
Accidents/In	juries:	No accidents	or injuries.			c	urrent Depth		2300			
O a fatur	Daily Cafaty M	a a time a Frank a	filitale / Onen	Footage This Report 0 Crane Acticity / Trip Hazards / Weather								
<u>Safety:</u>	Daily Safety M	eeting - End d	of Hitch / Cran	e Acticity /	Trip Hazards		tal Well Foot	age Cored	897			
Environment	al Incidents:	No Spills					al Well Core F	-	838			
						Cor	e Recovery P	ercentage	93.0%			
Drilling Supe	ervisors:	C. Watson /	T. Tirlia					-				
From	То	Hours	IADC Code		me Summar							
0000	2400	24.00	1				ackload into c		10 0 0 7			
						•	s from Module Modules, # 13					
				and 8.				, 12, 11, 10,	5, 6, 7,			
					t and remove	cable for pl	none system.					
					remove piles:							
					e following pi							
)°F lake water					
)°F lake water)°F lake water					
							0°F lake water					
				Attempt to	circ on pile's	41 & 43 wit	h no success	- Frozen.				
						ugh the line	in piles: 44, 34	4, 46, 47 an	d 48 with			
				no success	3.							
				Piles Pulle	d: 4/52 - 7.7%							
	Total	24.00	Hours		pletely Frozer		Piles Check w	/air: 5/52				
Rental Equip			Location	Data	Logger Sur	veys	Mud Sur	face Temp	Micro			
Pickup Trucks			Deadhorse	Depth	Inclination	Temp	Time	In	Out			
Passenger Va Light Plants (PBHotel GBR	Deadhorse Hot Ice #1									
Security Guar			Hot Ice #1									
Heaters (3)		1GBR/2Veco										
50T Crane (1))	Peak	Hot Ice #1									
Manlift (2)			Hot Ice #1									
150T Crane (1)	Peak	Hot Ice #1	Temp.	h - L							
				20 to 40 Wind	DEIOW F.							
				5 to 10	mph							
					[b							
Daily M	ud Report	Time	of day	Chemic	als Mixed							
Mud pro	perties @	9:00	20:00									
	MW			-								
	Funnel Visc. PV			-								
	YP											
	F/L			1								
F	lowline Temp.											
_	pH			4								
Chlorid	des(mg/l)/Ca++ KCL%			4								
	Freeze Point			-								
						Lake						
						K209	Lake K209					
		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -					
Consumable		Potable	Hot Ice Grey		Fuel	Bbls)	yds)					
Previous Bala Received	IIICE	3,180 2,035	1,372	0	1,957 2,000	84,030	4,380 0					
Daily Usage c	or made	2,035	2,009		1,251		0					
Cumulative U		60,021	_,000	İ	.,201	84,030	4,380					
On Hand	,	2,957	3,381	0	2,706			ľ				
Comments:					Correction							

Dynatec crew departed the slope today at 1300 hrs. Cost includes Module cleaning & updated Washbay charges.

Date: Rpt. No.	2/29/2004 49			ot Ice Proje y Drilling R		Anadar Petroleum Corporation	le ⁿ		
Operation @	0300 AST:	R/U to circ Pi	le #24 (Total F	Piles Pulled	19)			200	
Accidents/In	juries:	No accidents	or injuries.			c	urrent Depth		
Safety:	Daily Safety M	leeting - Movii	ng out of Cam	p / Crane A	cticity / New	hazards	Footage Th	nis Report	0
						То	tal Well Foot	age Cored	897
Environment	tal Incidents:	No Spills					al Well Core F		838
Drilling Supe	ervisors:	C. Watson /	T. Tirlia			Core	e Recovery P	ercentage	93.0%
From	То	Hours		Activity Ti	me Summar	у			
0000	2400	24.00	1		e following 13	•			
							0°F lake water		
)°F lake water		
							ake water, hole ake water, hole		
							ake water, hole		
				· ·			water, hold 12	,	
				Pile #40, c	irc for 1 hr w/ [.]	190°F lake v	water, hold 15	,000 lbs Te	n.
				Pile #37, c	irc for 1 hr 35	mins w/190	0°F lake water	, hold 15,00	0 lbs Ten.
							5°F lake water		
							0°F lake water		
							ake water, hole		
)°F lake water ake water, hole		
				-			e run 1/2" stee	-	
							weather static		
					o .		ncy lights. R/D		•
	Total	24.00	Hours		and stairways		ulled: 17/51 3		
Rental Equip	oment		Location		a Logger Sur	veys	Mud Sur	face Temp	. Micro
Pickup Trucks	· · /	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse						
Light Plants (GBR	Hot Ice #1						
Security Guar Heaters (3)	rd Shack (1)	Arctic Cater 1GBR/2Veco	Hot Ice #1						
50T Crane (1)	Peak	Hot Ice #1						
Manlift (1))		Hot Ice #1						
150T Crane (1)	Peak	Hot Ice #1	Temp.					·I
Manlift (1)	/	Kuparuk	Hot Ice #1		below F.				
		•		Wind	l				
				5 to 10	mph				
						,			
	ud Report		of day	Chemic	als Mixed				
Mud pro	operties @	9:00	20:00	4					
1	MW Funnel Visc.			-					
1	PV			1					
1	YP			1					
	F/L			1					
F	Flowline Temp.			1					
1	pH]					
Chlorid	des(mg/l)/Ca++			-					
	%KCL								
	Freeze Point					l aka			
1						Lake K209	Lake K209		
1		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumable	S	Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)		
Previous Bala		2,957	3,381	0	2,706	84,030	4,380		
		2,001							
Received		2,001	- ,				0		
Daily Usage of	or made	1,304	1,176		1,251		0		
Daily Usage of Cumulative U	or made	1,304 6,125	1,176			84,030	0 4,380		
Daily Usage o	or made	1,304		0	1,251 1,455	84,030		· · ·	

<u>Comments:</u> Approximately 5 mins is needed to warm up the pipe and remove any ice plugs. We continue to check each pile with air to see if there are any plugs.

Date: Rpt. No.	3/1/2004 50			ot Ice Proje y Drilling R		Anadar Petroleum Corporation	æ	-	
Operation @	0300 AST: Pul	ling pile # 27							
Accidents/In	<u>juries:</u>	No accidents	or injuries.			С	urrent Depth Footage Tl		
<u>Safety:</u>	Daily Safety M	leeting - Movii	ng out of Cam	p / Crane A	cticity / New	/ hazards	i ootage ii		Ŭ
							tal Well Foot	-	
Environment	ai incidents:	No Spills					I Well Core F Recovery P		
Drilling Supe	ervisors:	C. Watson / D). Thompson		a / R. Wall			oroontago	001070
From	To	Hours	IADC Code						
0000	2400	24.00	1		e following p		ike water, hol	d 13 500 lbs	Ten
				-			water, hold 20	-	
							ke water, hol		
							ake water, hole		
				,			ike water, hol	,	
				-			ike water, hol oF lake water	-	
				-			ike water, hol		
				-			00° lake water		
				and loader				•	
				-			00° lake water		
							ike water, hole		
				-			ike water, hole water. still circ		
				FIIC #47, C	110. 101 45 1111	15. W/ IAKE			ume.
	Total	24.00	Hours		ulled: ??/51 -				
Rental Equip			Location		a Logger Sur			face Temp	
Pickup Trucks	()	Airport Rntls PBHotel	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va Light Plants (GBR	Deadhorse Hot Ice #1						
Security Guar	,	Arctic Cater	Hot Ice #1						
Heaters (3)	()	1GBR/2Veco							
50T Crane (1)	Peak	Hot Ice #1						
Manlift (1)	4	Airport Rntls	Hot Ice #1	-					
150T Crane (Manlift (1)	1)	Peak Kuparuk	Hot Ice #1 Hot Ice #1	Temp. 20 to 40	bolow E				
Marinit (1)		Кирагик		Wind					
					mph				
						_			
	ud Report	Time	of day	Chemic	als Mixed				
Mud pro	operties @	9:00	20:00	-					
	MW Funnel Visc.			_					
	PV			_					
	YP								
	F/L]					
F	Iowline Temp.			_					
Ohland	pH hee(ma(l)/Co++			-					
Chiorie	des(mg/l)/Ca++ KCL%			-					
	Freeze Point			-					
						Lake			
						K209	Lake K209		
Consumable	c	Hot Ice Potable	Hot Ice Grey	Main Wtr.	Hot Ice Fuel	(water- Bbls)	(ice chips -		
Consumable Previous Bala		1,653	4,557	Storage 0		84,030	yds) 4,380		
Received		1,000	4,007		2,002	01,000	0	ł	
Daily Usage of	or made				1,041				
Cumulative U	sage (est.)	6,125				84,030	4,380	ļ	
On Hand Comments:				0	1,041			l	

Date: 3/2/2004 Hot Ice Project Δnadar Rpt. No. 51 **Daily Drilling Report** Operation @ 0300 AST: Waiting on Weather Accidents/Injuries: No accidents or injuries. Safety: Daily Safety Meeting - Moving out of Camp / Crane Acticity / New hazards Environmental Incidents: No Spills **Total Well Core Recovered Core Recovery Percentage** Drilling Supervisors: C. Watson / D. Thompson & T. Tirlia / R. Wall IADC Code Activity Time Summary From То Hours

From To	Hours	IADC Code	Activity Ti	me Summar	у			
		1	Remove the	e following p	iles:			
0000 0600	6.00		Pile #47, ci	rc for 45 min	s w/200°F la	ake water, hole	d 9,000 lbs	Ten.
			Pile #48, ci	rc for 35 min	s w/200°F la	ake water, hole	d 9,000 lbs	Ten.
			Pile #27, ci	rc for 35 min	s w/200°F la	ake water, hole	d 9,500 lbs	Ten.
						ake water, hole		
						ain frozen, una		
0600 2400	18.00		SD WO We		-,	,		
					se Little Red	d Services and	d crane crev	v
						and snow blow		
			rraining on		aa graaor, c			
			Crew chan	ne out to Kur	aruk by cor	voy. All perse	onnel accor	inted for
						ation through		
			arnaapara			adon anough	and hight.	
Total	24.00	Hours	Piles Pi	ulled: 35/51 -	22%			
Rental Equipment	24.00	Location		Logger Sur		Mud Sur	face Temp	Micro
Pickup Trucks (5)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (1)	PBHotel	Deadhorse	Dopui	litelitelite	Tomp			out
Light Plants (5)	GBR	Hot Ice #1						
Security Guard Shack (1)	Arctic Cater	Hot Ice #1						
Heaters (4)	2GBR/2Veco							
50T Crane (1)	Peak	Hot Ice #1						
Manlift (1)	Airport Rntls Peak	Hot Ice #1	Tamm					
150T Crane (1)		Hot Ice #1	Temp.	h alaw E				
Manlift (1)	Kuparuk	Hot Ice #1		below F.				
Contractor trucks (2)	Various	Hot Ice #1	Wind	una un la				
		<u> </u>	30 to 40	mpn				
Daily Mud Bapart	Timo	of day	Chamio	als Mixed				
Daily Mud Report Mud properties @	9:00	20:00	Chemica					
Mud properties @		20.00	-					
			-					
Funnel Vis			-					
	۷ ۲		-					
	′P		-					
	/L		-					
Flowline Tem	•	 	-					
-	H		-					
Chlorides(mg/l)/Ca			-					
%K0			-					
Freeze Poi	nt					1		
					Lake			
					K209	Lake K209		
	Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumables	Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)		
Previous Balance	1,653	4,557	0	2,082	84,030	4,380	l.	
Received						0		
Daily Usage or made				1,041				
Cumulative Usage (est.)	6,125				84,030	4,380		
Onlland								
On Hand Comments:			0	1,041				



Current Depth 24:00 hrs Footage This Report

Total Well Footage Cored

2300

0

897

838

93.0%

 Date:
 3/3/2004

 Rpt. No.
 52

Hot Ice Project Daily Drilling Report



Operation @ 0300 AST: Waiting on weather.

Accidents/Injuries: No accidents or injuries.	Current Depth 24:00 hrs	2300
	Footage This Report	0
Safety: Daily Safety Meeting - Clearing pad, uncovering equipment	snowed in, restablishing	
where all the gear is located.	Total Well Footage Cored	897
Environmental Incidents: No Spills	Total Well Core Recovered	838
	Core Recovery Percentage	93.0%

Drilling Supe	arvisors:	D.Thompson	/P Wall			CON	e Recovery P	ercentage	93.0%			
From	To	Hours	IADC Code	Activity Ti	me Summar	v						
0000				Waiting on weather. 40 Mph winds,								
0600	0600			 By 0200 Hrs a snow blower arrived. Then @ 0330 the fuel truck cam in escorted by a forklift, and all the generators and light plants, trucks, and cranes were topped off. The storm continued with the whol field going to phase 2. Keeping Ice road open with snowblower and blade.Convoy out night crews. Convoy in day crews. Clean snow from generator engines. 								
1500	1500 1800			Peak mechanic repaired Peak forklift. GBR replaced light plant.Return GBR heater to Deadhorse. Wind died down, Peak cleaning snow from pad. Phase One.								
1800	2400			Began taking bolts out from Camp Complex, in preparation to dismantle. Continue snow removal.								
	Total	24.00	Heure				end of VSM,		2 151			
Rental Equip		24.00	Hours Location		Logger Sur		camp. in plac	face Temp.				
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In In	Out			
Passenger Va	· · /	PBHotel	Deadhorse	Deptil	mennation	remp	Time		Out			
Light Plants (GBR	Hot Ice #1									
Security Guar	,	Arctic Cater	Hot Ice #1									
Heaters (4)		1GBR/2Veco/										
50T Crane (1) Peak			Hot Ice #1									
Manlift (1)	/	Airport Rntls	Hot Ice #1									
150T Crane ((1)	Peak	Hot Ice #1	Temp.								
Manlift (1)	.')	Kuparuk	Hot Ice #1	10 to 20	below F							
Marine (1)		raparan		Wind	5010111							
					mph ENE							
DeilerM		Time	of dou	Chamia	ala Missad	ŗ						
_	ud Report		of day	Cnemic	als Mixed	i i						
	operties @ MW	9:00	20:00									
	Funnel Visc.			-								
	PUIIIIei Visc.	,										
	YP	-		-								
	F/L											
	Flowline Temp.											
-	Hq											
Chlori	des(mg/l)/Ca++											
	%KCL											
	Freeze Point											
						Lake						
		Hatles				K209	Lake K209					
)e	Hot Ice Potable	Hot Ice Grey	Main Wtr. Storage	Hot Ice Fuel	(water- Bbls)	(ice chips - yds)					
Consumable		i vlabie	,	Storage 0	910	84,030	4,380					
Consumable Previous Bala	ance	1 653	4 557									
Previous Bala	ance	1,653	4,557	0		04,000	-	ł				
Previous Bala Received		1,653	4,557	0	772	04,000	0	ł				
Previous Bala Received Daily Usage o	or made		4,557				0					
Previous Bala Received	or made	1,653 6,125 0	4,557		772 248	84,030	-					

Date: 3/4/2004 Rpt. No. 53 Hot Ice Project Daily Drilling Report



Operation @ 0300 AST: Fire watch, waiting on the trucks to return for more loads.

Accidents/Injuries: No accidents or injuries.

Current Depth 24:00 hrs 2300 Footage This Report 0

<u>Safety:</u> Daily Safety Meeting - Crane safety, rigging and hand signals.

Environmental Incidents: No Spills

Total Well Footage Cored897Total Well Core Recovered838Core Recovery Percentage93.0%

Anadaı

					Cor	e Recovery P	ercentage	93.0%			
Drilling Supervisors:	D.Thompson		A								
From To	Hours	IADC Code				no no ni no ti n	المراجعة المستحد				
0000		1				removing tie o					
0600			preparation to hoist off with crane.Covering windows with plywood. PJSM Put heat on 150T crane clutches. Shut down incinerator.Ren								
0800				lower walkwa			win incinera	lor.Remov			
0800						n snow remov	al from nad	Shut down			
0800											
			Heliport lights, Remove heliport lights and box up for transport.Remove bottom walkway on north side of camp. Loading VSM's on Carlile.								
1400			Remove bottom walkway on south side of camp.								
1400 1445			PJSM Put heat on 150T crane clutches. Shut down incinerator.Remove								
1445 1600			Lifting off upper camp units and set on trailers.								
1600 2400			Ŭ	•••		on trailers. Tra	ansport can	no units to			
			Ŭ	Deadhorse.							
					going to GS	I pad, one mil	e out side [Deadhorse.			
Total	24.00	Hours				camp. in place	e. 14,15,39),2 IN.			
Rental Equipment		Location		Logger Sur		Mud Sur	face Temp	Micro			
Pickup Trucks (5)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out			
Passenger Van (1)	PBHotel	Deadhorse									
Light Plants (5)	GBR	Hot Ice #1									
Security Guard Shack (1)	Arctic Cater	Hot Ice #1									
Heaters (4)	1GBR/2Veco/										
50T Crane (1)	Peak	Hot Ice #1									
Manlift (1)	Airport Rntls	Hot Ice #1	Taman								
150T Crane (1) Manlift (1)	Peak Kuparuk	Hot Ice #1 Hot Ice #1	Temp. 22.00	below F.							
	Ruparuk		Wind	Delow F.							
				mph WNW							
Daily Mud Report	Time	of day	Chemic	als Mixed							
Mud properties @	9:00	20:00									
MW											
Funnel Visc.											
PV											
YP											
F/L			-								
Flowline Temp.											
pH			_								
Chlorides(mg/l)/Ca++											
%KCL Freeze Point											
Freeze Folin					Lake						
					K209	Lake K209					
	Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -					
Consumables	Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)					
Previous Balance	0	1,862	0	1,620	84,030	4,380					
Received						0					
Daily Usage or made											
Daily Usage of made											
Cumulative Usage (est.)	6,125				84,030	4,380					
	6,125		0		84,030	4,380					

Operation @ 0300 AST: Steaming out VSM*s Accidents/Injuries: No accidents or injuries. Current Depth 24:00 h Safety: Daily Safety Meeting - Working with pressurized steam Total Well Footage This Repr Safety: Daily Safety Meeting - Working with pressurized steam Total Well Footage Criteria Drilling Supervisors: D.Thompson/R.Wall Total Well Core Recovery Percenta D0000 0600 6.00 1 Fire watch, clear snow from equipment. Fuel up trucks, or Cara recew prepare to lift of camp buckets. Clean snow from equipment. Fuel up trucks, or Cara recew prepare to lift of camp buckets. Start picking up Ducket at and fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel tanks for loading. Ship out two camp units. Transfer fuel fuel fuel fuel fuel fuel fuel fuel			'kp ⁱ	Anadar	1	ot Ice Proje / Drilling R			3/5/2004 54	Date: Rpt. No.
Accidents/Injuries: No accidents or injuries. Current Depth 24:00 h Safety: Daily Safety Meeting - Working with pressurized steam Total Well Footage Con Environmental Incidents: No Spills Total Well Core Recover Core Recovery Percenta Dilling Supervisors: D.Thompson/R.Wall Total Well Core Recovery Percenta 0000 0600 6.00 1 Fire watch, clear snow from equipment. Fuel up trucks, cr 0000 0600 6.00 1 Fire watch, clear snow from equipment. Fuel up trucks, cr 0000 0600 6.00 1 Cran crew prepare to lift off camp buckets. Clean snow form equipment. Fuel up trucks, cr 0000 0600 6.00 1 Fire watch, clear snow from equipment. Fuel up trucks, cr 1800 2100 Re Rig steam lines, schedule: 40 pipe loo light. Welds too down into the 3/4 string designed to help with draw the VS 2200 2300 Steam VSM #3. Pull 9,500 lbs. 2300 2400 Steam VSM #3. Pull 9,500 lbs. Steam VSM #3. Pull 9,500 lbs. Steam VSM #5 Pull 9,500 lbs. Socurity Quard Shack (1) Archoc 4#1 Inclination Heaters (4) GBR Hot loc #1 Inclination Socurity Quards Shac	and	200		Petroleum Corporation	oport	, Drining it		aming out VS		•
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Heaters (4) 1GBR/2Veco/ Hot Ice #1										
50T Crane (1) Peak Hot Ice #1 Image: constraint of the state										
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Operation 42 0300 AST. Steaming out VSM's Accidents/Injuries: No accidents or injuries. Current Depth 24:00 Ins Safety: Daily Safety Meeting - Working with pressurized steam Environmental Incidents: No accidents or injuries. Total Well Foctage Cond 887 Optimal Subarylson: D. ThompsonR Well Total Well Foctage Cond 887 Otion 10100 Total Well Foctage Cond 887 Optimal Subarylson: D. ThompsonR Well Total Well Condo Ibs. Using the 50 ton crane. Steam VSM # 3. Pull with 10.000 lbs. Option 1 Steam VSM # 3. Pull with 10.000 lbs. Steam VSM # 3. Pull with 10	Date: Rpt. No.	3/6/2004 55			lot Ice Proje y Drilling R		Anadar	ke ⁱ	4	٦
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Torilling Supervisors: D.Thompson/R.Wall Description Description <thdescription< th=""> <thdescription< th=""> Descrip</thdescription<></thdescription<>	<u> </u>	· , · · · ,	J	5 1 1					•	
Drilling Supervisors: D.Thompson/R.Wall Auror IADC Code Activity Time Summary 0000 0100 0200 0330 Steam VSM # 7, Pull with 10,000 lbs. Using the 50 ton crane. 0200 0330 0330 Steam VSM # 9, Pull with 10,000 lbs. Steam VSM # 13, Pull with 10,000 lbs. 0330 0600 Steam VSM # 13, Pull with 10,000 lbs. Steam VSM # 13, Pull with 10,000 lbs. 0600 0600 Steam VSM # 13, Pull with 10,000 lbs. Steam VSM # 14, Pull with 10,000 lbs. 0500 0600 Steam VSM # 10, Pull with 10,000 lbs. Steam VSM # 10, Pull with 10,000 lbs. 1500 1800 Work no vSM # 36. No movement. Now KM # 70, Pull with 10,000 lbs. 1800 2400 Fire watch. Steam OVSM # 31. Pull with 10,000 lbs. 1800 2400 Eactoring to the call to the ca	<u>Environment</u>	tal Incidents:	No Spills							
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0500 0600 Steam VSM # 12, Pull with 10,000 lbs. Steam and Pull VSM # 10.8 M 14.8 4-4-1-39 . 1500 1800 Work on VSM # 36. No movement. Ship out six Carille trucks to Deadhorse with two camp units.one gen. house, Water treatment house, Grey water house, camp walkways. Fire watch. 1800 2400 Data Logger Surveys Mud Surface Temp. Microo Pickup Trucks (5) Airport Rnits Deadhorse Depth Inclination Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time No Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Im Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Image: Security Guard Shack (1) Arctic Cater Hot Ice #1 Image: Security Guard Shack (1) Arctic Cater Temp. Manift (1) Airport Rnits Hot Ice #1 Temp. Image: Security Guard Shack (1) File						-	-			
0600 1500 1500 1800 Steam and Pull VSM # # 10.8:6-4-1.33. 1800 2400 Work on VSM # 36. No movement. Ship out six Carlie trucks to Deadhorse with two camp units.one gen. house, Water treatment house, Grey water house, camp walkways, Fire watch. Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rotts Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time In Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination Temp In Out Soft Crane (1) Peak Hot Ice #1 Temp. below F. Mainift (1) Airport Rotts hot Ice #1 Inclination Inclination <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>										
1500 1800 Work on VSM # 36. No movement. Ship out six Carille trucks to Deadhorse with two camp units.one gen. house, Waler treatment house, Grey water house, camp walkways, Fire watch. 1800 2400 Interaction treatment house, Grey water house, camp walkways, Fire watch. Multiple camp walkways, Fire watch. Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Prokup Trucks (5) Airport Rmits Deadhorse Depth Inclination Temp Inclination Temp Mucro Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Inclination Temp Inclination State State State State State State Mucro State						,	,			
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1800 2400 house, Water treatment house, Grey water house, camp walkways, Fire watch. 1800 2400 Hours Fire watch. Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Argort Rnits Deathorse Data Data Passenger Van (1) PBHotel Deathorse Deathorse Inclination Temp Security Guard Shack (1) GBR Hot ice #1 Inclination Image: Stranger Van (1) Peak Hot ice #1 Image: Stranger Van (1) Peak Image: Stranger Van (1) Image: St	1500	1800						oroo with two	oomo unito	000 000
1800 2400 Fire watch. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntis Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time In Out Security Guard Shack (1) Arctic Cater Hot toe #1 Inclination Inclination Inclination Temp Time In Out Security Guard Shack (1) Arctic Cater Hot toe #1 Inclination In									•	•
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Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntts Deedhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHtolel Deedhorse Inclination Temp Time In Out Light Plants (5) GBR Hot Ice #1 Inclination Inclination Temp Inclination Temp Inclination Temp Inclination Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination Incli	1000	2400			File watch	•				
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Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntts Deedhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHtolel Deedhorse Inclination Temp Time In Out Light Plants (5) GBR Hot Ice #1 Inclination Inclination Temp Inclination Temp Inclination Temp Inclination Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination Incli										
Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntts Deedhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHtolel Deedhorse Inclination Temp Time In Out Light Plants (5) GBR Hot Ice #1 Inclination Inclination Temp Inclination Temp Inclination Temp Inclination Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination Incli					_					
Pickup Trucks (5) Airport Rntis Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse			24.00							
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Light Plants (5) GBR Hot ice #1 Image: constraint of the ice ice ice ice ice ice ice ice ice ic			P		Depth	Inclination	Temp	Time	In	Out
Security Guard Shack (1) Arctic Cater Hot Ice #1 Heaters (4) 1(3BR/2Veco/) Hot Ice #1										
Heaters (4) 1GBR/2Veco/ Hot Ice #1 50T Crane (1) Peak Hot Ice #1 Manlift (1) Airport Rntls Hot Ice #1 150T Crane (1) Peak Hot Ice #1 Manlift (1) Airport Rntls Hot Ice #1 150T Crane (1) Peak Hot Ice #1 Manlift (1) Kuparuk Hot Ice #1 30.00 Wind Multiproperties @ 9:00 20:00 MW Funnel Visc. PV PV PP FlL PV FlL PH Main Wtr. Hot Ice Wain Wtr. Hot Ice PV PH Generating Main Wtr. Hot Ice Hot Ice Grey Storage Puel Freeze Point Hot Ice Grey Storage Puel Bibls) yds) Alge or made 0 Comulative Usage (est.) 6,125 On Hand 0	.	,	-							
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Manift (1) Airport Rntls Hot Ice #1 Temp. 150T Crane (1) Peak Hot Ice #1 Temp. Manift (1) Kuparuk Hot Ice #1 30.00 Manift (1) Kuparuk Hot Ice #1 30.00 Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW		、 、								
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Manlift (1) Kuparuk Hot Ice #1 30.00 below F. Wind 10mph NE Daily Mud Report Time of day Chemicals Mixed MW 9:00 20:00 MW		4)	P		T					
Unit Wind Daily Mud Report Time of day Mud properties @ 9:00 MW		1)								
Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW	Manlift (1)		Kuparuk	Hot Ice #1		below F.				
Daily Mud Report Time of day Chemicals Mixed Mud properties @ 9:00 20:00 MW					-					
Mud properties @ 9:00 20:00 MW					10mph	NE				
Mud properties @ 9:00 20:00 MW							,			
MW MW Funnel Visc. PV PV PV YP PV Flowline Temp. PH pH PV Chlorides(mg/l)/Ca++ PKCL %KCL Potable Hot Ice Main Wtr. Hot Ice Value Previous Balance 0 Received 0 Daily Usage or made 0 Cumulative Usage (est.) 6,125 On Hand 0			Time		Chemic	als Mixed				
Funnel Visc.	Mud pro		9:00	20:00						
PV Image: constraint of the second secon										
YP Image: consumables Potable Hot Ice Grey Main Wtr. Hot Ice Fuel Lake K209 (ice chips - global) Previous Balance 0 - 0 - 84,030 4,380 Received 0 - 0 - 84,030 4,380 On Hand 0 0 0 - 0 -										
F/L Image: constraint of the second seco										
Flowline Temp. Image: Chlorides(mg/l)/Ca++ Chlorides(mg/l)/Ca++ Image: Chlorides(mg/l)/Ca++ %KCL Image: Chlorides(mg/l)/Ca++ Hot Ice Main Wtr. Hot Ice Main Wtr. Hot Ice Main Wtr. Fuel Bbls) yds) Previous Balance 0 - 0 Daily Usage or made Image: Chlorides(mg/l) - 0 Cumulative Usage (est.) 6,125 Image: Chlorides(mg/l) 4,380 On Hand Image: Chlorides(mg/l) 0 Image: Chlorides(mg/l) </td <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td>					1					
pH					1					
Chlorides(mg/l)/Ca++		Flowline Temp.			1					
%KCL		•								
Freeze PointHot IceMain Wtr.Hot IceLake K209 (water- Bbls)Lake K209 (ice chips - yds)Previous Balance0-0-84,0304,380Received0-0-00Daily Usage or made6,125084,0304,380On Hand00000	Chlori				1					
Hot Ice ConsumablesHot Ice PotableMain Wtr.Hot Ice StorageLake (vater- Bbls)Lake K209 (ice chips - yds)Previous Balance Received0-0-84,0304,380Daily Usage or made Cumulative Usage (est.)6,12584,0304,380On Hand00					1					
Hot Ice PotableHot Ice Hot Ice GreyMain Wtr. StorageHot Ice FuelK209 (water- Bbls)Lake K209 (ice chips - yds)Previous Balance0-0-84,0304,380Received-0-84,0304,380Daily Usage or made0-0Cumulative Usage (est.)6,125-84,0304,380On Hand00-84,0304,380		Freeze Point								
Hot Ice PotableHot Ice Hot Ice GreyMain Wtr. StorageHot Ice Fuel(ice chips - yds)Previous Balance0-0-84,0304,380Received-0-84,0304,380Daily Usage or made0-0Cumulative Usage (est.)6,125-84,0304,380On Hand00-84,0304,380										
ConsumablesPotableHot Ice GreyStorageFuelBbls)yds)Previous Balance0-0-84,0304,380Received0-000Daily Usage or made0-0Cumulative Usage (est.)6,12584,0304,380On Hand00-0										
Previous Balance 0 - 0 - 84,030 4,380 4,3							•	•		
Received 0 Daily Usage or made 0 Cumulative Usage (est.) 6,125 84,030 4,380 On Hand 0 0 0				Hot Ice Grey	Storage	Fuel				
Daily Usage or made 6,125 84,030 4,380 On Hand 0		ance	0	-	0	-	84,030			
Cumulative Usage (est.) 6,125 84,030 4,380 On Hand 0								0		
On Hand 0 0										
		lsage (est.)	6,125				84,030	4,380		
<u>Comments:</u> Unable to remove VSM # 36. It will be cut off 3 feet below grond level										
	Comments:	Unable to rem	ove VSM # 36	. It will be cut o	ff 3 feet belo	ow grond leve	el			

Date: Rpt. No.	3/7/2004 56			ot Ice Proje y Drilling R		Petroleum Corporation	ke i				
Operation @	0300 AST: Ste	aming out VS	<u>M's</u>					25			
Accidents/Inj	uries:	No accidents	or injuries.			C	urrent Depth		2300		
Safety:	Daily Safety M	eeting - Work	ing with proce	urizod eto:	m		Footage Th	nis Report	0		
<u>Salety.</u>	Daily Salety M	eeting - work	ing with press		a111	То	tal Well Foot	age Cored	897		
Environment	al Incidents:	No Spills					I Well Core F	-	838		
						Core	e Recovery P	ercentage	93.0%		
Drilling Supe		D.Thompson									
From 0000	To 0600	Hours 6.00	IADC Code		me Summar	,	Deadhorse Hr				
0600	1800	12.00	ſ	Fire watch at Hot Ice, Crew of 8 in Deadhorse Hotel Continue to rig down, and abandon the Hot Ice Pad. Fill holes with gravel. Plant grass seed in each hole. On the GSI site, grade pad to level with road grader, and grinder. Place rig mats down to create foot print of camp.							
1800	2400	6.00		Fire watch, both locations.							
	Total	24.00	Hours								
Rental Equip	ment		Location	Data	a Logger Su	rveys	Mud Sur	face Temp.	Micro		
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out		
Passenger Va		PBHotel	Deadhorse								
Light Plants (5	,	GBR	Hot Ice #1								
Security Guar	d Shack (1)	Arctic Cater	Hot Ice #1								
Heaters (4)		1GBR/2Veco/									
50T Crane (1)		Peak	Hot Ice #1								
Manlift (1)		Airport Rntls	Hot Ice #1	-							
150T Crane (*	1)	Peak	Hot Ice #1	Temp.			N I I	L 10			
Manlift (1)		Kuparuk	Hot Ice #1	27 to 45	below F.	80) below windc	nili			
				Wind							
				5 to 15	mph NW						
Daily M	ud Report	Timo	of day	Chomic	als Mixed	T					
	perties @	9:00	20:00	Chemic		L					
	MW Funnel Visc. PV YP										
_				-							
F	Iowline Temp.										
Ohlaria	pH										
Chioric	les(mg/l)/Ca++ KCL%										
	Freeze Point										
	Fieeze Folin	Hot Ice			Hot Ice	Lake K209	Lake K209 (ice chips -				
Consumable	e	Potable	Hot Ice Grey	Main Wtr. Storage	Fuel	(water- Bbls)	(ice chips - yds)				
Previous Bala		Potable 0	-	Storage 0		84,030	4,380				
Received		0			_	0-1,000		ŀ			
Daily Usage o	r made										
Cumulative Us		6,125		1		84,030	4,380	ŀ			
On Hand	<u> </u>			0							
Comments:	Unable to rem	ove VSM # 36	. It will be cut o	ff 3 feet belo	ow grond leve	el					

Date: Rpt. No.	3/8/2004 57			ot Ice Proje y Drilling R		Petroleum Corporation	æ	2	
Operation @	0300 AST: Fire	e watch.							
Accidents/In	<u>juries:</u>	No accidents	or injuries.			С	urrent Depth Footage Th		2300 0
<u>Safety:</u>	Daily Safety M	leeting - Crane	e safety, and li	ifting.		_	-		
<u>Environment</u>	al Incidents:	No Spills				Tota	tal Well Foota Il Well Core R	Recovered	838
Drilling Supe		D.Thompson		A	•		e Recovery P	ercentage	93.0%
From 0000	To 0600	Hours 6.00	IADC Code		both location				
0000	0000	0.00	•	i iic watch	both location	5.			
0600	1200				Finish setting for the rig cam		op of rig mats	, to establis	sh the
1200	1800			Set all 10 o	camp units in	, place.			
1800	2400			No activity	at GSI.				
0000	0600			Hot Ice:					
0000 0600	0600 0930			Fire watch	and load traile				
0930	1300						o. Suck out wa	ator	
1300	1800						w ground leve		ment
1000	1000				uck Shevie w		-		
							original auge	r drilling. R	emove all
						-	Dug out and c	-	
					pelow ground		-		
	Total	24.00	Hours						
Rental Equip		Location		Logger Sur			face Temp		
Pickup Trucks			Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel GBR	Deadhorse Hot Ice #1						
Security Guar		-	Hot Ice #1						
Heaters (4)		1GBR/2Veco/							
50T Crane (1))	Peak	Hot Ice #1						
Manlift (1)	/	Airport Rntls	Hot Ice #1						
150T Crane (1)	Peak	Hot Ice #1	Temp.					• •
Manlift (1)		Kuparuk	Hot Ice #1	27 to 33	below F.	60) below windcl	nill	
				Wind	I				
				5 to 15	mph NW				
	ud Report		of day	Chemic	als Mixed				
Mud pro	operties @	9:00	20:00	-					
1	MW Funnel Visc.			-					
1	Funnel VISC. PV			-					
	YP		<u> </u>	1					
1	 F/L			1					
F	-lowline Temp.			1					
	pH]					
Chlorid	des(mg/l)/Ca++								
	%KCL			4					
	Freeze Point								
						Lake K209	Lake K209		
1		Hot Ice		Main Mita	Hot Ice	(water-	Lake K209 (ice chips -		
Consumable	s.	Potable	Hot Ice Grey	Main Wtr. Storage	Fuel	(water- Bbls)	(ice chips - yds)		
Previous Bala		Potable	-	Storage 0		84,030	4,380		
Received		<u></u>			-	57,000	4,300		
Daily Usage of	or made						,		
Cumulative U		6,125				84,030	4,380		
On Hand	<u> </u>			0		,			
Comments:	Unable to rem	ove VSM # 36	It will be cut o	ff 3 feet belo	ow arond leve				

 On Hand
 0

 Comments:
 Unable to remove VSM # 36. It will be cut off 3 feet below grond level

Date: 3/9/2004 Hot Ice Project Anadar Rpt. No. 58 **Daily Drilling Report** Operation @ 0300 AST: Fire watch. 2300 Accidents/Injuries: No accidents or injuries. Current Depth 24:00 hrs Footage This Report 0 Safety: Daily Safety Meeting - Pinch points, and cold weather work Total Well Footage Cored gloves, and mittens, hand warmers. 897 Environmental Incidents: No Spills **Total Well Core Recovered** 838

Core Recovery Percentage

93.0%

						Cor	e Recovery P	ercentage	93.0%
Drilling Supe		D.Thompson		<u>-</u>					
From	То	Hours	IADC Code						
0000	0600			-			t Ice. Two wor		
0600						•	t generator ho		
							egin bolting the		ether.
	1200						orse to ship o		
1200							n. house. Ren		
				Stage conn	exes to GSI	from Carlisl	e yard in Dead	dhorse. Pul	l wires
				for Gen. #1	and #2. Jac	k up corners	s of camp afte	r over night	
	1800			settling. 1.5	" inches.				
0600				Hot Ice: CI	ean pad, pla	nt grass see	ed in VSM hole	es. Scrape	i
							er down road		
	1800						dish, enviro-s		
1800					,	J J J J J			
	2400			Fire watch.					
	2100			i no watom					
	Total	24.00	Hours	4					
Rental Equip		24.00	Location	Data	Logger Sur	NOVE	Mud Sur	face Temp	Micro
Pickup Truck		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In In	Out
Passenger Va		PBHotel	Deadhorse	Deptil	Incination	Temp	Time	- 111	Out
Light Plants (GBR	Hot Ice #1						1
0		-							
Security Guar	rd Shack (1)	Arctic Cater	Hot Ice #1	-					
Heaters (4)		1GBR/2Veco/							
50T Crane (1)	Peak	Hot Ice #1						
Manlift (1)		Airport Rntls	Hot Ice #1						
150T Crane ((1)	Peak	Hot Ice #1	Temp.					
Manlift (1)		Kuparuk	Hot Ice #1	27 to 33	below F.	60	below windc	hill	
				Wind					
				5 to 15	mph NW				
Daily M	ud Report	Time	of day	Chemica	als Mixed				
Mud pro	operties @	9:00	20:00						
	MW								
	Funnel Visc.								
	PV								
	YP								
	F/L								
	Flowline Temp.								
	•			-					
Ohlari	pH			-					
Chiorie	des(mg/l)/Ca++			-					
	%KCL			-					
	Freeze Point			ļ,				l	
						Lake			
						K209	Lake K209		
1_		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumable		Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)		
Previous Bala	ance	0	-	0	-	84,030	4,380		
Received							0		
Daily Usage of	or made								
Daily Usage of Cumulative U		6,125			<u> </u>	84,030	4,380		
		6,125		0		84,030	4,380		

Date: 3/10/2004 Hot Ice Project Anadaı Rpt. No. 59 **Daily Drilling Report** Operation @ 0300 AST: Fire watch. 2300 Accidents/Injuries: No accidents or injuries. Current Depth 24:00 hrs **Footage This Report** 0 Safety: Electrical safety, energized equipment, starting up generators **Total Well Footage Cored** 897 Environmental Incidents: No Spills **Total Well Core Recovered** 838 **Core Recovery Percentage** 93.0% Drilling Supervisors: D.Thompson/R.Wall IADC Code Activity Time Summary No activity at GSI. Fire watch at Hot Ice. Two work sites still in action. From То Hours 0000 0600

0600 1800 1800 Stacked the concers . Cleaned show out of camp. Fired up Generators placed #2 on line. Warm up camp. 0600 1800 1800 Stacked the concers . Cleaned show out of camp. Fired up Generators placed #2 on line. Warm up camp. 0600 1800 1800 Stacked the concers of the camp up 2 inches. Settled over night. 1800 1800 1800 Stacked the concers of the camp up 2 inches. Settled over night. 1800 1800 1800 Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rhits Deathorse Depth Inclination Temp Pickup Trucks (5) GBR Hol tes #1 Import Rhits Deathorse Import Rhits Stacket the concers of the camp up in the set of the	0000	0600			No activity	at GSI. Fire v	watch at Ho	t Ice. Two wor	k sites still	in action.			
0600 1800 pieced #2 on line. Warm up camp. 0600 1800 Jacked the comers of the cam up 2 inches. Settled over night. Hot loe: Continue to clean site, pull delineators, dig out both stream crossings. Remove Hot loe sign, abandon site. Site completely clean and documented as being so. All AOGCC regulations, and conditions of drilling permits met. Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Passenger Van (1) PBHotel Deadhorse Dept Inclination Temp Heatres (4) GBR Hot loe #1 Inclination Temp Image: Surveys Mud Surface Temp. Micro Security Guard Shack (1) Ariport Rntls Deadhorse Dept Inclination Temp Image: Surveys Mud Surface Temp. Micro Socurity Guard Shack (1) Ariport Rntls Deadhorse Dept Inclination Temp Image: Surveys Mud Surface Temp. Micro Socurity Guard Shack (1) Ariport Rntls Deadhorse Light Plants (5) Deathorse Dept Inclination Temp Image: Surveys Mud Surface Temp. Micro 1got Caran (1) Peak Hot Ice #1 Temp. Im	0600												
0600 1800 Jacket the comers of the camp up 2 inches. Settled over right. Hot for: Continue to clean site, pull delineators, dig out both stream crossings. Remove Hot lce sign, abandon site. Site completely clean and documented as being so. All AOGCC regulations, and conditions of drilling permits met. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Pickup Trucks (5) Airport Rnts Deadhorse Depth Inclination Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time In Out Security Guard Shack (1) Artiport Rnts Deadhorse Depth Inclination Temp Time In Out So Crane (1) Peak Hot Ice #1 Image: So Crane (1) Peak Image: So Crane (1) Image: So Cran													
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50T Crane (1) Peak Hot Ice #1 Image: constraint of the image: constrai		d Shack (1)											
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MW Image: MW Image	-			-	Chemic	als wilkeu							
Funnel Visc.			9:00	20:00	-								
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Daily Usage or made	Previous Bala	ince	0	-	0	-	84,030	4,380					
Cumulative Usage (est.) 84,030 4,380 On Hand 0 0 0	Received							0					
On Hand 0	Daily Usage of	or made											
		sage (est.)					84,030	4,380					
Comments:					0								
	Comments:							l					

3/11/2004 Date: Rpt. No. 60

Hot Ice Project **Daily Drilling Report**



2300

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Anadar

Operation @ 0300 AST: No late night activity. Down to one crew.

Accidents/Injuries: No accidents or injuries.

Safety: Forklift safety, good communication with driver hand signals, and staying focused on the end of the job. Environmental Incidents: No Spills

Total Well Footage Cored 897 **Total Well Core Recovered** 838 Core Recovery Percentage 93.0%

Current Depth 24:00 hrs Footage This Report

Drilling Supe	ervisors:	D.Thompson							
From	То	Hours	IADC Code	Activity Ti	me Summar	y			
0000	0600		1	Hot Ice cor	mpleted./ No a	activity over	night at GSI s	ite.	
0600							een camp mo		
							rom Deadhors		
1000	1200						amp. Continue		e, inventory
1200							ile yard in Dea		
	1000						#2. run #1 to	•	•
	1800				rs. clean up g	jenerator ro	oms and all ca	amp bed roo	oms and
				offices.					
1800	2400			No optivity					
1800	2400			No activity.					
	Total	24.00	Hours						
Rental Equip			Location	Data	Logger Sur	vevs	Mud Sur	face Temp	. Micro
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Va		PBHotel	Deadhorse						
Light Plants (GBR	Hot Ice #1						
Security Guar		Arctic Cater	Hot Ice #1						
Heaters (4)		1GBR/2Veco/	Hot Ice #1						
50T Crane (1)	Peak	Hot Ice #1						
Manlift (1)		Airport Rntls	Hot Ice #1						
150T Crane (1)	Peak	Hot Ice #1	Temp.					
Manlift (1)		Kuparuk	Hot Ice #1	15 to 30	below F.		no wind		
				Wind					
				3 to 10	mph NW				
,	ud Report	Time	of day	Chemic	als Mixed				
Mud pro	operties @	9:00	20:00						
	MW			-					
	Funnel Visc.								
	PV			-					
	YP			_					
	F/L			-					
l i	Flowline Temp.								
Chlorid	pH http://www.coh								
Chiorie	des(mg/l)/Ca++ %KCL								
	Freeze Point								
	11002010111					Lake			
						K209	Lake K209		
		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumable	s	Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)		
Previous Bala		0	-	0		84,030	4,380		
Received	-					. ,	0	ŀ	
Daily Usage of	or made								
Cumulative U						84,030	4,380		
On Hand				0					
Comments:									

 Date:
 3/12/2004
 Hot Ice Project
 Accidents/Injuries:
 No accidents or injuries.

 Safety:
 Forklift safety, good communication with driver hand signals, and staying focused on the end of the job.

 Environmental Incidents:
 No Spills

D.Thompson/R.Wall

Footage This Report b. Total Well Footage Cored Total Well Core Recovered Core Recovery Percentage

Current Depth 24:00 hrs

From Hours IADC Code Activity Time Summary То 0000 0600 No activity over night. 1 0600 0630 Pre job safety meeting. 0630 Repair plumbing in potable water house. Stack dura-mats, and module lids in foot print of storage area. Continue to clean up and stack conex's. Inventory wood and iron beams. Place front porch on camp. Clean out tool /parts house. Retrieve Pason float from trip tank. Inspect modules # 15 and #2, and lift station tank in Peak Wash Bay. 1800 Module #3 / last one to wash. 2400 1800 No activity. Total 24.00 Hours **Rental Equipment** Location **Data Logger Surveys** Mud Surface Temp. Micro Depth Inclination Pickup Trucks (5) Airport Rntls Deadhorse Time Out Temp In Passenger Van (1) PBHotel Deadhorse Light Plants (5) GBR Hot Ice #1 Security Guard Shack (1) Arctic Cater Hot Ice #1 1GBR/2Veco/ Hot Ice #1 Heaters (4) 50T Crane (1) Peak Hot Ice #1 Airport Rntls Hot Ice #1 Manlift (1) Temp. 150T Crane (1) Peak Hot Ice #1 Manlift (1) Hot Ice #1 15 to 30 below F. Kuparuk no wind Wind 3 to 10 mph NW **Daily Mud Report** Time of day Chemicals Mixed 20:00 Mud properties @ 0.00 мw **Funnel Visc** P٧ YΡ F/L **Flowline Temp** pН Chlorides(mg/l)/Ca++ %KCL **Freeze Point** Lake K209 Lake K209 Hot Ice Hot Ice (water-(ice chips -Main Wtr. Consumables Potable Hot Ice Grey Storage Fuel Bbls) yds) Previous Balance 0 0 84,030 4,380 Received 0 Daily Usage or made Cumulative Usage (est.) 84,030 4,380 On Hand 0

Comments:

Drilling Supervisors:



2300

0

897

838

93.0%

3/13/2004 Date: Rpt. No. 62

Hot Ice Project **Daily Drilling Report**



2300

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Anadar

Operation @ 0300 AST: No late night activity. Down to one crew.

Accidents/Injuries: No accidents or injuries.

Safety: Forklift safety, good communication with driver hand signals, and staying focused on the end of the job. Environmental Incidents: No Spills

Total Well Footage Cored	897
Total Well Core Recovered	838
Core Recovery Percentage	93.0%

Current Depth 24:00 hrs

Footage This Report

Drilling Supe	ruisors:	D.Thompson	/D Wall			001	e Recovery P	ercentage	33.070
From	To	Hours	IADC Code	Activity Ti	me Summan	v			
0000	0600	liouis		No activity		y			
0600	0630		1			with Peak or	ew. Three forl	dift operator	~ -
0000	0000			-			drivers. Move	•	
				modules.	ator and nggt				
0630	0700				oty monting w	with Voco ro	oustabouts, an	d Laura Vic	tor Andy
0030	0700				stack the mod		Justabouts, an	u Laura, vic	loi, Anuy
0700	2000						aka in tha Daal	word with t	ha
0700	2000						cks in the Peal ided the alumi		
					· · ·		ods. were rota		•
				and stacke	a 3 nign up s	ide down. S	Seven rows of	three, for a	total of 21.
2000	2400			No activity.					
	Tatal	04.00		-					
Rental Equip	Total	24.00	Hours Location	Data	Logger Sur	VOVE	Mud Sur	face Temp.	Micro
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	lace remp.	Out
Passenger Va	. ,	PBHotel	Deadhorse	Deptil	incination	Temp	11110		Out
Light Plants (GBR	Hot Ice #1						
		Arctic Cater	Hot Ice #1						
Security Guar Heaters (4)	u Shack (1)	1GBR/2Veco/							
	\ \								
50T Crane (1))	Peak	Hot Ice #1						
Manlift (1) Airport Rntls Hot Ice				Taman					
150T Crane (1)	Peak	Hot Ice #1	Temp.					
Manlift (1)		Kuparuk	Hot Ice #1	15 to 30	Delow F.		no wind		
				Wind					
				3 to 10	mph NW				
Daily M	ud Report	Timo	of day	Chomic	als Mixed	,			
-	operties @	9:00	20:00	Chemic		i i			
	MW		20.00						
	Funnel Visc.			1					
	PV			-					
	YP			-					
	F/L			-					
	Fiowline Temp.			-					
ſ	pH			-					
Chlorid	•			-					
Chiorie	des(mg/l)/Ca++ %KCL			-					
	Freeze Point			-					
-	Fleeze Folin					Lake			
						K209	Lake K209		
		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumable	e	Potable	Hot Ice Grey	Storage	Fuel	(water- Bbls)	yds)		
Previous Bala		0		0 O		84,030	4,380		
Received		0	-	0	-	04,030	4,360		
Daily Usage of	or made						0		
Cumulative U						84,030	4,380		
On Hand	saye (est.)			0		04,030	4,300		
Comments:		1	I	0	I I				
Somments.							I		

Date: 3/14/2004 Rpt. No. 63 Hot Ice Project Daily Drilling Report

Anadari



2300

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Operation @ 0300 AST: No late night activity. Down to one crew.

Accidents/Injuries: No accidents or injuries.

 Safety:
 Forklift safety, good communication with driver hand signals, and staying focused on the end of the job.

 Environmental Incidents:
 No Spills

Total Well Footage Cored	897
Total Well Core Recovered	838
Core Recovery Percentage	93.0%

Current Depth 24:00 hrs

Footage This Report

From To Hours IADC Code Activity Time Summary 0000 0600 1 No activity over night. No activity over night. 0600 0630 1 No activity over night. Pre job safety meeting with Veco roustabouts. Final day of organizatio in the Carlisle yard and out at Parson's. Stay focused, no one is in a hurry. 0630 1800 Build storage docks with beams and 3 x 12's. Arrange and store all the stairs, lids, and misc. acoutrements. Steel placed on trailers to be shipped to Anchorage. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntts Deadhorse Deadhorse Deadhorse Image: Carling the temp in temp Out Passenger Van (1) PBHotel Deadhorse Image: Carling temp in temp Image: Carling temp in temp Light Plants (5) GBR Hot Ice #1 Image: Carling temp in temp Image: Carling temp in temp Heaters (4) IGBR/2Veco/ Hot Ice #1 Image: Carling temp in temp Image: Carling temp in temp Image: Carling temp in temp Manifft (1) Airpo	Drilling Supe	ervisors:	D.Thompson								
0600 0630 Pre job safety meeting with Veco roustabouts. Final day of organization in the Carlisle yard and out at Parson's. Stay focused, no one is in a hurry. 0630 1800 Build storage docks with beams and 3 x 12's. Arrange and store all the stairs, lids, and misc. acoutrements. Steel placed on trailers to be shipped to Anchorage. Pickup Trucks (5) Airport Rntis Passenger Van (1) PBHotel Passenger Van (1) PBHotel Deadhorse Inclination Light Plants (5) GBR Bett Plants (4) 1GBR/2Vecol/Hot Ice #1 50T Crane (1) Peak Manliff (1) Airport Rntis Manliff (1) Kuparuk Hot Ice #1 Inclination Security Guard Shack (1) Peak Hot Ice #1 Inclination Manliff (1) Kuparuk Hot Ice #1 Inclination Manliff (1) Kuparuk	From	То	Hours	IADC Code	Activity Ti	ime Summar	y				
0630 1800 in the Carlisle yard and out at Parson's. Stay focused, no one is in a hurry. Build storage docks with beams and 3 x 12's. Arrange and store all the stairs, lids, and misc. acoutrements. Steel placed on trailers to be shipped to Anchorage. Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntls Deathorse Passenger Van (1) PBHotel Deathorse Light Plants (5) GBR Hot Ice #1 Security Guard Shack (1) Arctic Cater Hot Ice #1 Heaters (4) 1GBR/2Veco/ Hot Ice #1 SoT Crane (1) Peak Hot Ice #1 Manlift (1) Airport Rntls Hot Ice #1 Manlift (1) Kuparuk Hot Ice #1 Manlift (1) Kuparuk Hot Ice #1	0000	0600		1	No activity	over night.					
Image: state of the state	0600	0630			in the Carli						
Total 24.00 Hours Rental Equipment Location Data Logger Surveys Mud Surface Temp. Micro Pickup Trucks (5) Airport Rntls Deadhorse Depth Inclination Temp Time In Out Passenger Van (1) PBHotel Deadhorse Depth Inclination Temp Time In Out Security Guard Shack (1) Arctic Cater Hot Ice #1 Inclination	0630	1800			all the stairs, lids, and misc. acoutrements.						
Pickup Trucks (5)Airport RntlsDeadhorseDepthInclinationTempTimeInOutPassenger Van (1)PBHotelDeadhorse <td></td> <td></td> <td>24.00</td> <td></td> <td colspan="7"></td>			24.00								
Passenger Van (1) PBHotel Deadhorse Image: Constraint of the state of th											
Light Plants (5) GBR Hot Ice #1 Image: Constraint of the image: Constraintof the image: Constrain					Depth	Inclination	Temp	Time	In	Out	
Security Guard Shack (1) Arctic Cater Hot Ice #1 Image: Cate of the cate of											
Heaters (4) 1GBR/2Vecol Hot Ice #1 Image: Constraint of the state											
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		,	Kuparuk	Hot Ice #1		below F.		no wind			
	()				Wind	1					
3 to 10 mph NW						mph NW					
						Tb					
Daily Mud Report Time of day Chemicals Mixed	Daily Mu	ud Report	Time	of day	Chemic	als Mixed	i i				
Mud properties @ 9:00 20:00		-		-			i i				
MW Note that the second	indd pro		0.00	20.00	-						
Funnel Visc.					-						
					_						
PV					-						
YP					_						
F/L	_										
Flowline Temp.	F	•			-						
pH		•									
Chlorides(mg/l)/Ca++	Chloric	des(mg/l)/Ca++									
%KCL		%KCL									
Freeze Point		Freeze Point						-			
Lake							Lake				
K209 Lake K209							K209	Lake K209			
Hot Ice Main Wtr. Hot Ice (water- (ice chips -			Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -			
Consumables Potable Hot Ice Grey Storage Fuel Bbis) yds)	Consumable	s	Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)			
Previous Balance 0 - 0 - 84,030 4,380	Previous Bala	ince	0	-	0	-	84,030	4,380			
Received 0	Received							0	ĺ		
Daily Usage or made	Daily Usage o	or made							ĺ		
Cumulative Usage (est.) 84,030 4,380							84,030	4,380			
On Hand 0					0						
Comments:			•		-						

Date: Rpt. No.	3/15/2004 64			ot Ice Project y Drilling Report	Anadarte [‡] Perdeum Corporation	20	
Operation @	0300 AST: No	o late night activ	vity. Down to	one crew.			
Accidents/I	njuries:	No accidents of	or injuries.		Current I	Depth 24:00 hrs	2300
<u>Safety:</u>	Back safety,	and proper liftin	ig techniques	5.	Foota	age This Report	0
			•		Total Well	Footage Cored	897
Environmer	ntal Incidents:	No Spills			Total Well C	Core Recovered	838
					Core Recov	very Percentage	93.0%
Drilling Sup	ervisors:	D.Thompson/F	R.Wall				
From	То	Hours	IADC Code	Activity Time Summ	nary		
0000	0600		1	No activity over night			
0600	0630			Pre job safety meetin	ng		
0630	1800			Shut down warming h All buildings winterize Broken door lock on Key box in the Co-Ma Master key in whareh	ed, and locked. potable water house. L an office in camp has a nouse in Deadhorse. the up right day tank, f	ocked with pad loc ill the keys.	sk.

			All building Broken doo Key box in Master key 250 gallon Enough for Desicants batteries d	the Co-Man of in wharehous s of fuel in the 30 hours of o	and locked. able water h office in can se in Deadh up right da operation. air intakes o	nouse. Locked	keys. generator	
Total	24.00	Hours	Dete			Maril		
Rental Equipment		Location		Logger Surv			face Temp	1
Pickup Trucks (5)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
Passenger Van (1) Light Plants (5)	PBHotel GBR	Deadhorse Hot Ice #1		<u> </u>				
Security Guard Shack (1)	Arctic Cater	Hot Ice #1						+
Heaters (4)	1GBR/2Veco/							
50T Crane (1)	Peak	Hot Ice #1	1					1
Manlift (1)	Airport Rntls	Hot Ice #1						
150T Crane (1)	Peak	Hot Ice #1	Temp.	1				
Manlift (1)	Kuparuk	Hot Ice #1		below F.		no wind		
			Wind					
			3 to 10	mph NW				
Daily Mud Report	Time	of day	Chomio	als Mixed				
Mud properties @	9:00	20:00	Chemic	als Mixeu				
MW Funnel Visc. PV YP F/L	3.00	20.00						
Flowline Temp. pH			-					
Chlorides(mg/l)/Ca++ %KCL			1					
Freeze Point			1					
Consumables	Hot Ice Potable	Hot Ice Grey	Main Wtr.	Hot Ice Fuel	Lake K209 (water- Bbls)	Lake K209 (ice chips - yds)		
Previous Balance	Polable		Storage 0		84,030			
Received	0	-	0	-	04,030	4,380 0		
Daily Usage or made						0		
Cumulative Usage (est.)					84,030	4,380		
On Hand		<u> </u>	0	1	01,000	4,000		
		1	. v					

Date: Rpt. No.	3/16/2004 65			ot Ice Proje / Drilling R		Petroleum Corporation	æ	ALL R		
Operation @	<u>0300 AST:</u>	Wrap Up Ope	erations					25		
Accidents/Inj	uries:	No accidents	or injuries.			c	urrent Depth Footage Th		2300 0	
Safety:	Back safety, a	nd proper lifti	ng techniques	i.		То	_		897	
Environment	al Incidents:	No Spills				Tota	tal Well Foota I Well Core R	ecovered	838	
Drilling Supe From	<u>rvisors:</u> To	R. Wall Hours	IADC Code		me Summar		e Recovery P	ercentage	93.0%	
0000	0600		1	No activity	over night.					
0600	2400			Hot Ice equipment all consolidated and stored in Deadhorse.						
				Roustabouts off payroll today. they stayed over night at the PBH, are going to Alpine.						
				Several pieces of equipment yet to be moved from Deadhorse to GSI Yard. Continuing efforts on inventory & final storage of materials and goods in Deadhorse						
Dontol Faulin	Total 24.00 Rental Equipment		Hours Location	Dete			Mud Cur		Miere	
Pickup Trucks		Airport Rntls	Deadhorse	Depth	Logger Sur	Temp	Time	face Temp. In	Out	
						•				
				Temp. 10 to 20	below F.					
				Wind						
				-	mph NW					
_	ud Report		of day	Chemic	als Mixed					
iviua pro	perties @ MW	9:00	20:00							
	Funnel Visc.									
	PV									
	YP									
-	F/L Iowline Temp.									
•	pH									
Chloric	les(mg/l)/Ca++									
	%KCL									
	Freeze Point					Lake				
						K209	Lake K209			
		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -			
Consumable		Potable	Hot Ice Grey	Storage	Fuel	Bbls)	yds)			
Previous Bala Received	nce	0	-	0	-	84,030	4,380			
Received Daily Usage o	or made						0			
Cumulative U						84,030	4,380			
On Hand				0						
Comments:										

Date: Rpt. No.	3/17/2004 66			ot Ice Proje / Drilling R		Anadar Petroleum Corporation	lę:	A C	
Operation @	<u>0300 AST:</u>	Wrap Up Ope	erations					200	
Accidents/Inj	uries:	No accidents	or injuries.			c	urrent Depth Footage Th		2300 0
<u>Safety:</u>	Back safety, a	nd proper lifti	ng techniques	.		_	_		
<u>Environment</u>	al Incidents:	No Spills				Tota	tal Well Foota al Well Core R	ecovered	897 838
Drilling Supe From	<u>rvisors:</u> To	R. Wall Hours	IADC Code	Activity Ti	mo Summar		e Recovery P	ercentage	93.0%
0000	0600	Tiours		No activity		у			
0600	2400 Total	24.00	Hours	-	-	onsolidated :	and stored in I	Deadhorse.	
Rental Equipment		Location	Data	a Logger Sur	veys	Mud Sur	face Temp.	Micro	
Pick up Truck	s (2)	Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
		-							
		-							
				Temp.					
				10 to 20	below F.				
				Wind	20.011				
					mph NW				
					<u>.</u> .				
Daily Mu	ud Report	Time	of day	Chemic	als Mixed				
Mud pro	perties @	9:00	20:00						
	MW								
	Funnel Visc.								
	PV								
	YP								
	F/L								
F	lowline Temp.								
	pН			-					
Chlorid	les(mg/l)/Ca++								
	%KCL								
	Freeze Point					1	1		
						Lake			
		Hot loo		Main 18/6	Hot los	K209	Lake K209		
Concurrent	-	Hot Ice Potable	Hot los Grov	Main Wtr.	Hot Ice Fuel	(water- Bbls)	(ice chips -		
Consumables Previous Bala		Potable	Hot Ice Grey	Storage 0			yds)		
Received		0	-	0	-	84,030	4,380 0		
Daily Usage o	r made						, , , , , , , , , , , , , , , , , , ,		
Cumulative Us						84,030	4,380		
On Hand	J ())			0		,	,		

l

On Hand Comments:

Date: Rpt. No.	3/18/2004 67			ot Ice Proje y Drilling R		Anadar Petroleum Corporation	lę n ⁱ	E	
Operation @	0300 AST:	Wrap Up Ope	erations					25	
Accidents/Injuries: No accidents		or injuries.			c	urrent Depth Footage Th		2300 0	
<u>Safety:</u>	Back safety, a	nd proper lifti	ng techniques	5.		_	-		
Environment	al Incidents:	No Spills				Tota	tal Well Foota al Well Core R	ecovered	897 838
Drilling Supe	ervisors:	R. Wall				Cor	e Recovery P	ercentage	93.0%
From	То	Hours	IADC Code			y			
0000	0600		1	No activity	over night.				
0600	2400 Total	24.00	Hours	Hot Ice equ	uipment all co	nsolidated a	and stored in I	Deadhorse.	
I otal Rental Equipment		24.00	Location	Data Logger Surveys Mud Surface Temp. Micro					Micro
Pick up Truck		Airport Rntls	Deadhorse	Depth	Inclination	Temp	Time	In	Out
•		•				•			
				Wind	below F. mph NW				
	ud Report		of day	Chemic	als Mixed				
Mud pro	operties @	9:00	20:00	-					
	MW Funnel Visc.								
	PV			-					
	YP								
	F/L			-					
	-lowline Temp.								
-	pH								
Chlori	des(mg/l)/Ca++								
	%KCL								
	Freeze Point			1					
						Lake			
						K209	Lake K209		
_		Hot Ice		Main Wtr.	Hot Ice	(water-	(ice chips -		
Consumable		Potable	Hot Ice Grey	-	Fuel	Bbls)	yds)		
Previous Bala	ance	0	-	0	-	84,030	4,380		
Received						_	0		
Daily Usage of						04.020	4 200		
Cumulative U On Hand	saye (esi.)			0		84,030	4,380		
			1	· · ·	1				

On Hand Comments:

3/19/2004 Date: Rpt. No. 68

Hot Ice Project **Daily Drilling Report**

FINAL REPORT





2300

0

Operation @ 0300 AST:

Accidents/Injuries:

Safety:

Environmental Incidents:

Drilling Supervisors:

Total Well Footage Cored 897 **Total Well Core Recovered** 838 **Core Recovery Percentage** 93.0%

Current Depth 24:00 hrs Footage This Report

From	To	Hours	IADC Code	Activity Ti	me Summar	v			
0000	0600		1	Activity Time Summary No activity over night.					
0600	2400			Hot Ice equipment all consolidated and stored in Deadhorse.					
				All personnel off slope, inventory secure and warehouse closed.					
				Work pending includes:					
						nications dis	sh from KRU t	ower	
					ent of Hazwa				
					sal of used oi				
					ssing of tools		sed on project		
					spection duri				
							age unit to UA	F?	
	Total	24.00	Hours	-					
Rental Equip			Location	Data Logger Surveys			Mud Surface Temp. Micro		
All Rental Eq	uipment Retur	ned		Depth	Inclination	Temp	Time	In	Out
				Temp.					
				Wind					
Dailv Mu	ud Report	Time	of day	Chemic	als Mixed				
-	operties @	9:00	20:00						
	MW								
	Funnel Visc.								
	PV			-					
	YP			-					
-	F/L lowline Temp.			-					
•	pH								
Chloric	des(mg/l)/Ca++								
	%KCL								
	Freeze Point								
						Lake			
		Hot Ice		No. 1. 1. 10/4	Hot Ice	K209 (water-	Lake K209		
Consumable	s	Potable	Hot Ice Grey	Main Wtr. Storage	Fuel	(water- Bbls)	(ice chips - yds)		
Previous Bala		0	-	0 Otorage	-	84,030	4,380		
Received	-					,	0		
Daily Usage o	or made								
Cumulative Us	sage (est.)					84,030	4,380		
On Hand				0					
Comments: Final daily report for			eport for Hot lo	e No. 1.					

Appendix C: Permafrost Foundations and Their Suitability as Tundra Platform Legs

Prepared for Anadarko Petroleum Corporation

By Lynn Aleshire and Hannele Zubeck

February 10, 2003

University of Alaska Anchorage School of Engineering 3211 Providence Drive Anchorage, Alaska, 99508

ABSTRACT

Anadarko Petroleum Corporation (APC) requires Vertical Support Members (VSM's) to support its Tundra Platform. The Platform will be mobilized for the hydrate drilling project on Alaska's North Slope during the winter of 2002/2003. The VSM's must meet APC's requirements to adequately support the Platform and, after the project is complete, to leave behind little or no evidence of the foundation. Foundation design processes for the North Slope were reviewed as well as basic principles of frozen ground soil mechanics. A variety of permafrost pile design and installation possibilities were reviewed to make recommendations of practical VSM's to support the Platform.

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INTRODUCTION

Background

Anadarko Petroleum Corporation (APC) has designed and developed the Tundra Platform that will serve as a land-based, all-season drilling platform for oil and gas exploration on Alaska's North Slope. Operation of the platform requires expeditious mobilization and demobilization without leaving any significant traces on the tundra.

The Tundra Platform requires 39 vertical support members (VSM's) to provide an adequate foundation for the horizontal operations surface. This Platform surface is designed to stand 14 feet (5 m) above the ground surface. The project design life is 2 years. During mobilization all of the VSM's must be installed and allowed to freeze back to provide adequate strength. After drilling is completed and the well is plugged and abandoned the horizontal members of the Platform are dismantled leaving the VSM's. The VSM's must then be removed with the goal of reusing them for the next drilling project.

Problem Statement

Designing the VSM's for this project presents several challenges. Axial design load for each of the VSM's is 667 kN (100 kips) with an anticipated bending moment of 68 kNm (600 kip-in).

While piles are routinely installed successfully as long-term foundations in permafrost they are not often inserted and then removed after only a few weeks. The design must allow for ease of removal.

Because there are so many piles required for the Tundra Platform the most economical design would call for the shortest piles possible. Shorter piles are cheaper, easier to transport and require less installation and removal time.

Design life for the Anadarko drilling projects is relatively short (less than two years) and thus pilejacking due to frost heave cycles is not a critical design factor. Permafrost degradation from heat transfer is not a serious concern because the operations surface is an adequate height above the ground surface. Heat sources greater than 0.7 m above the ground surface have been found not to transfer the heat necessary to cause thermal degradation (Johnston, 1981). In addition to mobility, important design factors are axial loads, primary creep and lateral loads.

Goals and Objectives

The purpose of this report is to describe different pile types, design methods, and installation methods in permafrost and evaluate their suitability as a foundation for the Tundra Platform. Based on the results of this evaluation, a course of action is recommended.

Scope of Work

This work will be accomplished by summarizing existing literature about piles in permafrost, considering new designs and methods, analyzing their suitability as Tundra Platform legs and formulating recommendations for future research.

DESIGN METHODS

The typical engineering design approach for foundations in permafrost is sketched in Figure 1. The primary determining factor is thaw stability of the soil. In other words, how does the soil behave throughout the seasonal freeze/thaw cycles? Stable soils are clean and granular without

ice. They do not heave when frozen and do not subside when thawed. Most soils are classified as thaw unstable. Ice and fine-grained soils are very common in permafrost and, therefore, foundations are designed to accommodate their heaving and subsidence.

Once it is determined that a pile foundation is the best design choice the pile design follows a procedure outlined in Figure 2.

Piles carry loads in two different ways regardless of the installation method. They can mobilize adfreeze strength at the pile soil interface, which is analogous to a friction pile in warm soils, or they can utilize the shear strength of the soils (end bearing). Essential to any foundation in frozen ground is maintenance of the thermal regime, that is, the permafrost must be kept frozen and as cold as possible. Anadarko's Tundra Platform will not cause excessive heat to be added to the ground because it is elevated. It will also provide shade that is beneficial in keeping the thermal regime.

Pile Failure

Pile failure may be defined two ways:

- 1. Excessive creep displacement over the project life. An allowable cumulative movement of the foundation must be determined.
- 2. Sudden movement caused by failure of the soil in tertiary creep.

Creep

When frozen ground is subjected to a load it responds with instantaneous deformation followed by a time-dependent deformation. Very heavy loads will display a limiting strength (Andersland and Ladanyi, 1994). Model curves of the behavior of frozen soils under load are shown in Figure 3. The initial displacement, primary creep, is a very small portion of the total time and displacement. Secondary creep is the next part of the curve and is also called steady-state creep. The limiting strength of a soil is defined by the tertiary creep that always leads to failure. The pile may also fail in creep; creep displacement exceeds allowable displacement.

Johnston and Ladanyi (1972) visually examined the frozen soils, silty clays, surrounding grouted anchors which had been pulled out of the ground. They found two kinds of deformation: a thin zone of high shear strain at the soil/grout interface and an outer zone of uniform shear strain that decreased rapidly with distance from the anchor. They considered the former to be slip failure at the anchor/soil interface which coincides with the tertiary creep and failure. In other words, it is visible evidence of the failure of the adfreeze bond under load. For slurried piles, failure will likely be between the pile and the slurry.

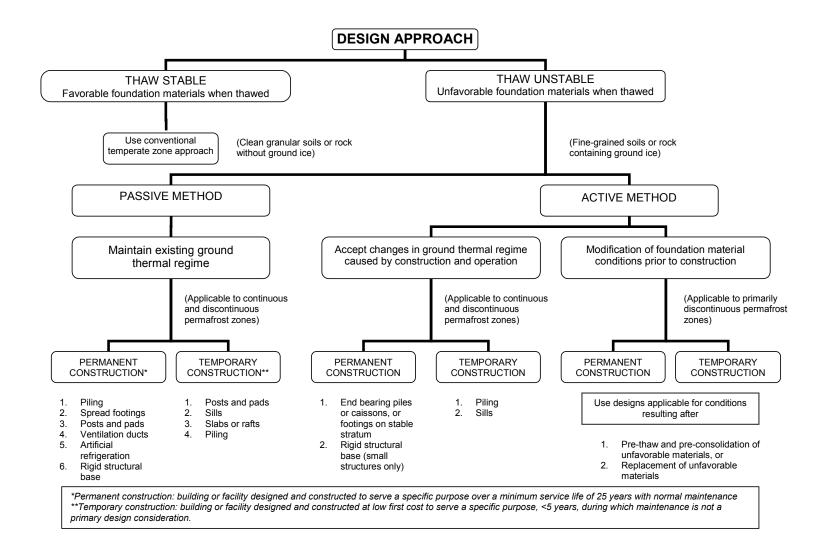


Figure 1 Foundation schemes for permafrost areas (modified from Linell and Lobacz, 1980)

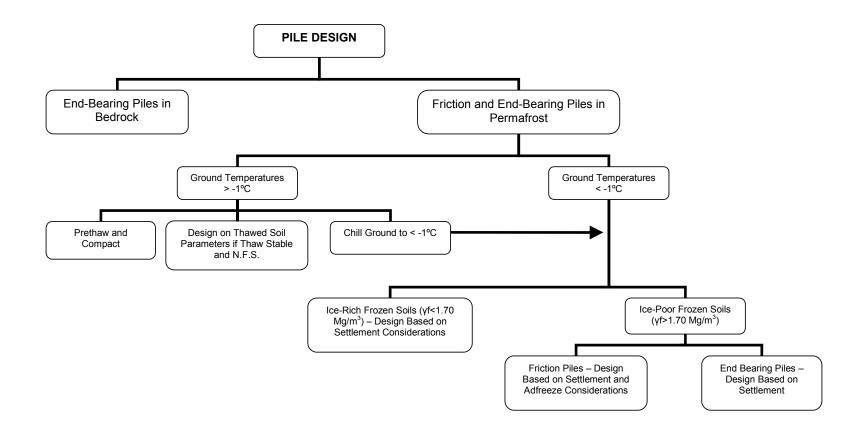
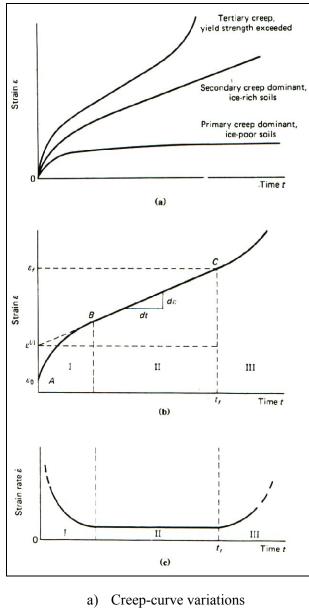


Figure 2 Pile design procedure for frozen ground (adapted from Weaver and Morgenstern, 1981)



- b) Basic creep curve
- c) True strain rate versus time

Figure 3 Model creep curves from constant-stress test (Andersland et al., 1978)

In design practice, the main concern is prediction of the displacement in secondary creep. Design load, allowable displacement and design temperature are required. Creep is directly related to ground temperature; displacement rates are much higher in warmer permafrost. Typically, predictions are made assuming ice-rich soils are present. Ice content of permafrost soils is highly variable within small areas. The presence of ice lenses and wedges is unpredictable and, therefore, a design based on an ice-rich soil is conservative at best. For light structures, resistance to pile jacking is the main concern.

There are numerous models used to predict creep in ice and ice-rich soils. Ladanyi (1972), Ladanyi and Johnston (1974), Nixon and McRoberts (1976), Nixon (1978), Morgenstern, Roggensack and Weaver (1980), Weaver and Morgenstern (1981), and Sego (1980) have each contributed to creep theory as it is practiced today and the reader is referred to these papers for a much more detailed discussion.

A result of the research listed above is the following equation (Equation 1) which predicts pile velocity in polycrystalline ice at temperatures below -1°C assuming constant load. The constant, B, is temperature-dependent and has been experimentally determined by Morgenstern et al (1980) and is defined by Equations 2 and 3.

Equation 1 $u = \frac{9}{2} aB\tau^3$

Where: $u = pile \ velocity, \ (mm/yr)$

a = pile radius, (mm)

 τ = constant shear stress, (kPa)

B = constant related to soil/ice structure and temperature, (kPa⁻³/yr)

Equation 2 $B = \frac{1.2x10^{-7}}{(1-T)^2}$ for $-2 < T \le -1 \circ C$ Equation 3 $B = \frac{6x10^{-8}}{(1-T)}$ for $T \le -2 \circ C$

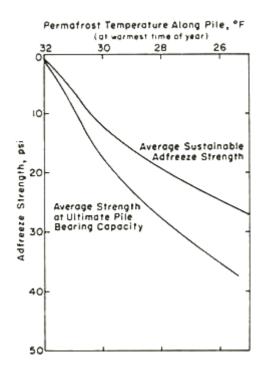
Using these three equations, curves can be generated to determine normalized pile velocity in terms of creep rate/year for various temperatures and loads (Neukirchner, 1984).

Adfreeze Design

Adfreeze forces are produced when frozen ground bonds to the pile surface and resists movement due to applied load. Magnitude of the adfreeze force is related to surface area and roughness of the pile, soil type, and temperature.

There are several methods used to determine load capacity of a pile using adfreeze strength. All of these methods produce rough estimates of adfreeze strength based on experimental studies. For all adfreeze calculations depth of the active layer does not contribute to pile strength. In other words, the first several feet of soil that is the active layer are not included as part of the pile length.

An often used design method developed by Linell and Lobacz (1980), given in Figure 4, estimates strength as a function of temperature and applies various factors to compensate for pile roughness and soil types. It includes correlation factors used to calculate load bearing capacity. "Sustainable" adfreeze strength relates to long-term adfreeze strength.



Tangential adfreeze bond strengths versus temperature for silt-water-slurried 0.22-m-O.D. steel pipe piles in permafrost, averaged over 5.50- to 6.40-m embedded lengths in permafrost. Correction factors for type of pile and slurry backfill (using steel in slurry of low-organic silt as 1.0).

Turpo of pilo	SI	urry soil
Type of pile ———	Silt	Sand
Steel	1.0	1.5
Concrete	1.5	1.5
Wood, untreated or light creosoted	1.5	1.5
Wood, medium creosoted (no surface film)	1.0	1.5
Wood, coal-tar-treated (heavily coated)	0.8	0.8

Notes:

- 1. Applies only for soil temperatures down to about -4°C (25°C).
- Where factor is the same for silt and sand, the surface coating on the pile controls, regardless of type of slurry. In the remaining factors the pile is capable of generating sufficient bond, so that the slurry material controls.
- 3. Gradations typical of soils used for slurry backfill are as follows: silt—SFS, Fairbanks silt; sand—SM, McNamara concrete sand.
- 4. Pile load tests performed using 44.5 kN/day (10kips/day) load increment were adjusted to 44.5 kN/3 days (10 kips/ 3days) to obtain curves shown.
- 5. Clays and highly organic soils should be expected to have lower adfreeze bond strengths.

Figure 4 Adfreeze strength as a function of temperature (from Linell and Lobacz, 1980)

Another model that is commonly used on the North Slope was developed by the North Slope Task Group. It uses a step function to approximate increases in adfreeze strength with depth (ARCO, Sohio, et, al, 1982). Permafrost temperatures are assumed to be the highest encountered in the Prudhoe Bay area. It assumes a 100-year design life. Table 1 is a chart of the adfreeze design strengths developed by the North Slope Task Group. Pile capacity can then be calculated by multiplying the adfreeze strength by the surface area of the pile. This model does not consider pile roughness and the slurry properties.

Table 1 Adfreeze strengths as a function of depth and factor of safety (modified
from ARCO Oil & Gas and Sohio, 1982)

Depth, m (ft)	Adfreeze Strength, kPa (psi)		
	F.S. = 2.0	F.S. = 3.0	
0 to 2 (0 to 9)	15 (103)	10 (69)	
2 to 4 (9 to 14)	20 (138)	15 (103)	
>4 (>14)	25 (172)	20 (138)	

Typically, end-bearing capacity is neglected in adfreeze designs. Linell and Lobacz (1980) considered piles backfilled with slurry to be friction piles with zero load at the tip. After reviewing long-term creep tests on frozen soils and proposed creep laws, Weaver and Morgenstern (1980) also concluded that end-bearing support is negligible for piles in all types of homogeneous permafrost. The fraction of load supported in end-bearing by a pile in frozen ground is less than 2%. However, both Ladanyi and Paquin (1978) and Sego (1980) determined experimentally that after settlement of 30% of the pile diameter there is some end-bearing capacity. The point resistance becomes proportional to penetration rate. For low settlement rates, less than 1mm/yr, the end bearing is neglected.

Both driven piles and smooth freezeback piles are considered friction piles and are designed to carry their loads using the strength of the adfreeze bond.

Shear Strength Design

Piles can be designed with a helix or rings that change the way the pile mobilizes load-bearing capacity. Shear strength or bearing capacity of the frozen ground carries the load instead of adfreeze strength. Utilizing soil shear strength greatly increases allowable pile load. Estimates range from 3 to 7 times adfreeze strength (Vialov 1959 and Newcombe 1973). As a result, screw piles can be much shorter than adfreeze piles.

Frozen soils are considered to be cohesive soils and, as described by Terzaghi (1943), bearing capacity is dependent on soil cohesion and soil friction angle. Therefore, this type of design requires *in situ* soil analysis to obtain the required values. Ishlinskiy (1944) and Berezantsev (1949) developed the theoretical model for calculating bearing capacity, P_{lim}, for two-dimensional circular footings as shown in Equation 4. Vialov (1959) compared theoretical calculations with actual measurements of bearing capacity. Computed values compared favorably with measured bearing capacities. The bearing capacity equations produce bearing length necessary to support the design load. Required helix length for the pile is calculated from bearing length.

Equation 4 $P_{\text{lim}} \approx 5.65c_e + q$

Where $P_{lim} = limiting$ stress of the soil (kg/cm²) or ultimate bearing capacity

 c_e =measured value of soil cohesion which includes plasticity and internal friction angle (kg/cm²)

 $q = \gamma D_{f}$, where $\gamma = unit$ weight of the soil and $D_{f} = depth$ of the footing

PILE TYPES AND INSTALLATION METHODS

Driven Piles

Driven piles in permafrost are different from driven displacement piles used in warmer climates. Permafrost requires some type of preconditioning before any type of pile can be driven because of its strength and hardness. Original builders in cold regions used steam to thaw the frozen ground and then inserted the pile, usually timber, by gently driving it. Steam thawing is a process difficult to control; a uniform hole size is not easily obtained (Crory, 1982). The slurry produced by the thawing is forced to the surface during the driving process. Stones or rocks often displace piles driven in steam-thawed holes, as much as 300 mm (12 in), and then must be straightened by rethawing and wedging the pile until it freezes into place (Johnston, 1963).

According to Nottingham and Christopherson (1983) driven piles, usually steel pipe or reinforced H-piles, are inserted into thermally modified pilot holes. Piles cannot be driven efficiently at temperatures colder than -0.5 to -1.0°C (-31 to 30°C) without pilot holes. Holes are predrilled or augured at a diameter less than the pile and filled with a warm fluid to warm the soils. The undersized hole makes driving easier and control of vertical alignment is maintained. Piles are usually driven with impact or vibratory hammers. Driving rates range from 300 mm (1 ft) per minute for an impact hammer to 1,500 mm (5 ft) per minute for a vibratory hammer. If properly planned, installation rates for driven piles can be twice that of drilled and slurried piles. Driven piles require less freezeback time, typically less than 2 days, and thus can be loaded sooner (Nottingham and Christopherson, 1983).

ARCO Alaska conducted extensive testing and research and selected the thermally modified pile driving method as the fastest and most economical method of pile installation. As a result, all the piles installed for the aboveground oil pipeline in the Kuparuk Field were installed by this method. Recommended water temperature is 66°C (150°F) with a thaw time of 30 minutes for granular soils and 60 minutes for fine-grained soils. For the determination of adfreeze strengths, soil type is more important than installation method. Different methods produced comparable adfreeze strengths. However, piles driven in frozen gravelly soils indicate lower adfreeze values than ice-rich silty sands. The author suggested this is because gravelly soils are located near rivers and subject to warmer ground temperatures (Manikian, 1983).

Freezeback Piles

Freezeback piles, also called drill and slurry piles, are placed by drilling an oversized hole, inserting the pile, and backfilling with a sand or gravel slurry to fill annular voids while suspending the pile with a crane. Slurries are mixed according to ASTM standards.

Screw Piles

Screw piles, also called ring piles or helical piles, have rings or a helix added to the surface of the pile that are of a greater diameter than the pile itself. They are, therefore, utilizing shear strength rather than adfreeze. Screw piles are installed using the drill and slurry method and thus also require freezeback time before loading. Installation procedures must ensure that slurry is placed adequately in the helical portion of the pile.

Helical Piers

Helical piers have a 50 mm (2 in) shaft and typically a 200 or 250 mm (8 or 10 in) helix and are currently used as foundations in permafrost for light-weight structures. They are screwed into the permafrost with a backhoe or excavator with a rotation head. Usually a pilot hole is not necessary. However, if soils are very cold a pilot hole may be necessary along with extra weight on the rotating head when screwing in the pier. Using a factor of safety of 2.0, each pier can carry about 111 kN (25 kips) if the soil conditions permit. (Zubeck and Liu, 2002).

For the Tundra Platform project 4 helical piers would replace each VSM. They would be inserted at an angle with a common apex. A connection would then be made to a vertical member and then to the platform. This 4 member unit would supply the necessary strength for lateral loading as well as axial loading. Angular installation is very common in warmer soils where these devices are used also in tension as helical anchors.

Thermal Piles

Thermal piles or thermosyphons are VSM's that are self-contained passive two-phase liquid/vapor heat transfer units (Figure 6). They are widely used to maintain thermal regimes in permafrost. The heat transfer technology is also used for remediation of foundations that have failed because of permafrost degradation. Thermosyphons can significantly increase soil strength by reducing the soil temperatures.

Thermal piles can be smooth piles designed using adfreeze forces, but are more and more ring or helical piles utilizing soil shear strength. They are installed using the drill and slurry method. Freezeback times are reduced because the thermal pile increases the rate at which heat is removed from the soil.

EXPERIMENTAL FOUNDATION OPTIONS FOR TUNDRA PLATFORM

TPL-7

Anadarko along with Radoil Inc. have designed a pile specifically for its Tundra Platform, Figure 6. For the purposes of this report we will designate it TPL-7. Outside diameter (OD) of the pile in the 6.7 m (22 ft)-upper smooth portion is 0.35 m (13.625 in). Below that point the casing OD becomes 0.22 m (8.625 in); with the helix added the diameter of the lower portion of the pile becomes 0.334 m (13.135 in). Planned embedment depth is approximately 6.1 m (20 ft).

The large diameter of the upper portion is required to accommodate the expected moment caused by wind. This design was originally a helical pile that would mobilize the soil shear strength. Because of the increased diameter of the upper portion it is highly probable that the adfreeze strength will be mobilized before the shear strength and the helix will add any additional load capacity. A field test was conducted for the TPL-7 and is reported separately (Zubeck, et al. 2003). According to the test results, more testing is required before the TPL-7 can be used for the Tundra Platform foundation system.

Flat Loop Evaporators

Flat loop evaporators are not VSM's, but they utilize thermosyphon technology to allow for ongrade construction. Horizontal thermosyphons are installed on-grade and require no ground penetrations (Yarmak and Long, 2002). Similar designs are used successfully beneath pavement and building structures to maintain the thermal regime in areas of warm or discontinuous permafrost (Forsström et al., 2002).

Briefly, the plastic thermosyphons are 64 mm (2.5 in) in diameter and are laid out on the ground. The ground is sprayed with enough water necessary to saturate the tundra and to cover the tubes. The thermosyphons freeze in place and can be overlaid by insulation and the Tundra Platform. Because this installation is on-grade normal loads are not a critical design factor. The controlling design factor is the heat transfer from the Platform to the subgrade and thus a thermal analysis is required. Spacing of the thermosyphons is dependent on results of the analysis and allows for maintenance of the thermal regime of the permafrost beneath the Platform.

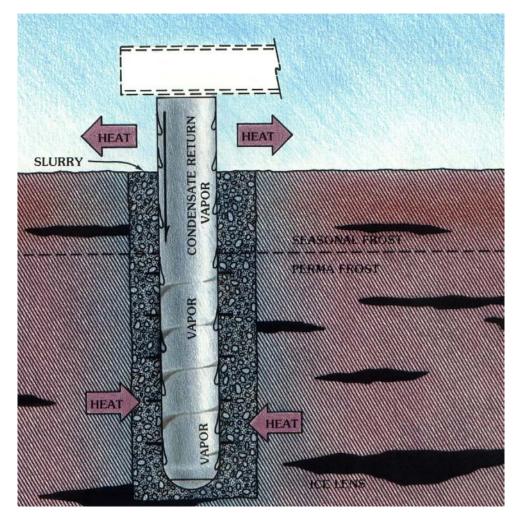


Figure 5 Thermal pile. Self-contained passive refrigeration system (from Arctic Foundations)

After drilling operations are complete and the well is plugged and abandoned the Platform components and the insulation are removed. The tubes are left behind and can be recovered when they have thawed in spring or summer temperatures. If the access to the site is limited in the summer period, steam could be circulated in the tubes to thaw them quickly.

It is understood that this type of foundation is not a consideration for this particular project. However, we do include this description to inform Anadarko of the state-of-the-art for possible application in future projects in cold regions.

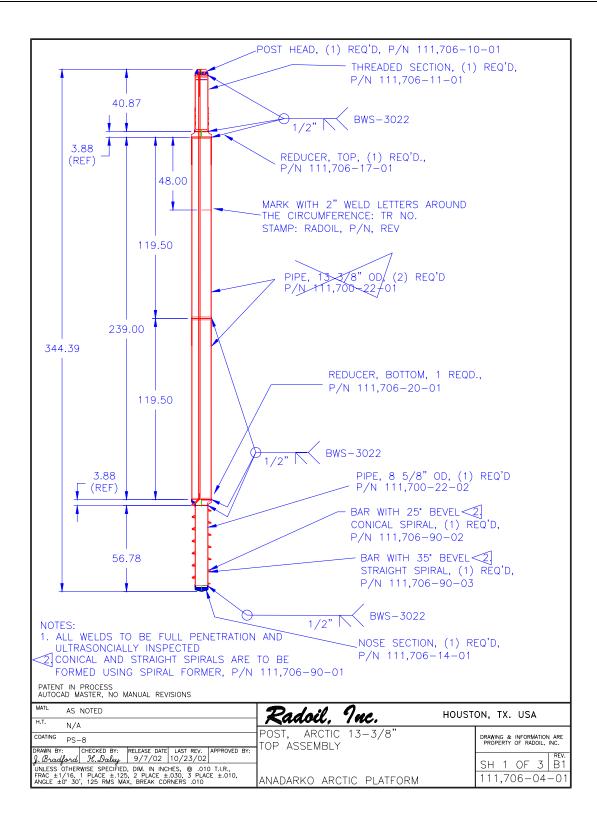


Figure 6 Diagram of Anadarko's Tundra Platform Leg, TPL-7

SUITABILITY OF FOUNDATION TYPES AS TUNDRA PLATFORM LEGS

Driven Piles

Advantages:

- Driven piles can be installed very quickly, as many as three per hour in warm permafrost (Phukan, 1998). Operationally, they would be relatively inexpensive to install.
- Because they require minimum thawing of the pilot hole, freezeback times are less than for drill and slurry piles.
- They can be cut off below the surface and left behind without removal.

Disadvantages:

- Driven piles utilize adfreeze design and are thus very long piles. Removal at the end of the project would be difficult.
- Precise placement is usually possible, but not always easily attained. The required tolerances for placement of the horizontal members must be compared with the expected placement precision.

Freezeback Piles

Advantages:

• Precise placement is easily achieved. Because the piles are inserted into oversized holes they can be accurately positioned before the slurry is poured.

Disadvantages:

- Temperature monitoring is required because adequate freezeback time is necessary before loading.
- Operationally, greater installation time is required.
- Adfreeze design requires pile lengths up to 10 m (30 ft).
- Pile removal by pullout will be difficult, because of the length and quantity.
- Pile removal will take more time because of the quantity

Screw Piles

Advantages:

- Because screw piles utilize the shear strength of the soil they can be much shorter than the piles mentioned above, and may be more economical.
- Operationally, shorter piles mean that less installation time is necessary. Shorter auguring time and fewer slurry materials are required.
- They can be placed precisely because they are installed using a drill/slurry method.

Disadvantages:

- They require freezeback time.
- Because they are usually shorter a lateral load or bending moment may require the pile to be lengthened.
- Because of the helix they are not easily removed. A mechanism to rotate and pull the pile to remove it from the ground will be necessary.

Helical Piers

Advantages:

- Fast and easy installation.
- Small size and weight.
- Ease of transportation.
- Resistance to frost jacking.

Disadvantages:

• The four piers required for each "leg" need to be connected to large-diameter legs at the ground surface.

TPL-7

Advantages:

- Shorter length than an adfreeze pile, if properly installed.
- Legs can be removed.

Disadvantages

- Uncertain load bearing capacity because of the unconventional diameter of the helix in relationship to the pile diameter. Need more research before an adequate design can be developed.
- Rotation for removal requires special equipment, which is an added expense.

Thermally Controlled Piles

Advantages:

- Short legs because the helices utilize soil shear strength.
- Capable of reducing soil temperatures and thus increasing soil strength.
- Have built-in capability for circulating fluids.

Disadvantages:

• Initial expense is greater than conventional piles.

Flat Loop Evaporators

Advantages:

- Allow for on-grade construction and thus eliminate VSM's.
- Relatively inexpensive and easy to install and remove.
- No ground penetrations. The siphon tubes can be recovered in the summer leaving no trace of a foundation.

Disadvantages:

- Requires some freezing time, but much less than a conventional ice pad.
- Design may require some insulation between structure and tundra.

RECOMMENDATIONS FOR IMPLEMENTATION AND FUTURE RESEARCH

General Recommendations for Design Choices

There are several feasible pile designs for Anadarko's Tundra Platform. Cost effectiveness and site impact are the most important factors. We can recommend two of the reviewed designs. Recommendations are based on general economic understanding that may or may not agree with Anadarko's own specific economic and operational standards.

- Driven piles. These would use an adfreeze design. They would be the cheapest to purchase and their installation by driving is the quickest of all the piles reviewed. Because they would be relatively long, lateral loads are easier to accommodate. When the project is complete they would not be recovered, but cut off below the surface leaving little evidence of the project.
- Helical piles: The bearing capacity design would allow them to be much shorter and they would be easier to recover if equipment is available to rotate and pull them out. Initial expense would be greater but the piles would be available for reuse. Lateral loading needs to be considered in the design.
- Flat Loop Evaporators and Helical Piers: We believe that these options are also worth of considering as foundation systems for the Platform.

Future Research

The future research could be conducted in two fronts: Conduct more studies on TPL-7 or optimize the pile length for smooth adfreeze piles. Reduced scale laboratory and field tests are recommended for TPL-7. Outcome of this research would be more information on how much more capacity do the helixes add for the pile when compared to a smooth pile.

The length of a smooth adfreeze pile could be optimized using Finite Element Analysis and reduced scale laboratory testing. The current adfreeze design method assumes that the adfreeze strength is mobilized along the whole pile surface, whereas Dr. He Liu and Dr. Hannele Zubeck from the UAA hypothesize that it is only mobilized along a small section of the pile. The outcome of this research would be a method to design the length of an adfreeze pile in ice-rich silt with ground temperature.

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Appendix D: Tundra Platform Leg Tests

Prepared for Anadarko Petroleum Corporation

by

Hannele Zubeck

Stan Porhola, and

Lynn Aleshire

University of Alaska Anchorage

School of Engineering

February 19, 2003

ABSTRACT

The University of Alaska Anchorage, School of Engineering designed and analyzed a pile test in permafrost for Anadarko Petroleum Company. The two piles (Spiral Legs) tested were designed and built by Radoil, Inc. using a concept provided by the Anadarko. The goals for the testing were to assure that the piles can be installed and removed without major problems, to assure that the piles can carry the design load for the design life of 2 years without instantaneous failure or excessive creep displacement, and to provide information and experience for future testing. The test proved that the Spiral Legs could be installed and removed without major difficulties at the average temperature of $-2^{\circ}C$ (28°F) in the ice rich silty soil and pure ice. The observed pile displacement rate at this temperature and in this soil was about 0.025 mm/h (0.001 in/hr). With this rate, the allowable design displacement of 15 mm (0.60 in) would be reached in one month. More research is recommended before Spiral Legs are used in the field. Since the spirals did not seem to offer the benefit of providing an acceptable displacement rate, the future research is recommended in optimizing the length of smooth piles.

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APPENDICES

Appendix D-1. Tundra Platform Test Program-V082102-1200

Appendix D-2. Observation, Conclusions & Recommendation for The Pile Load Test Leg Removal

Appendix D-3. Thermistor Data

INTRODUCTION

Background

Anadarko Petroleum Company (Anadarko) has designed a portable tundra platform and will field test the design during the 2003 drilling season on a gas hydrate coring well as part of their research into gas hydrate technologies. The design of the platform calls for ease of mobilization and demobilization without leaving significant damage to the existing tundra. An important part of the platform design is the foundation system. Anadarko has designed a pile with helixes (Spiral Leg) to carry the load from the superstructure to the permafrost. The function of the helixes was to possibly add additional pile capacity and to aid in removing the piles by circulating a heated liquid down the pile, through the helixes and back to the surface. Anadarko provided funding for the University of Alaska Anchorage (UAA), School of Engineering to design and analyze a pile test that would determine the suitability of the spiral legs as the tundra platform foundations and to provide information for further testing.

Problem Statement

The piles need to meet the following requirements:

- The design load per pile is 445 kN (100kips). The ultimate capacity of each pile is 667 kN (150 kips) using a factor of safety of 1.5 and a design life of 2 years. The allowable settlement is 15 mm (0.6 in) in 2 years and 25mm (1 in) in 40 years.
- The permafrost needs to remain frozen below the tundra platform. If degradation of the permafrost is anticipated, the foundation system needs to assist in keeping the permafrost from thawing.
- The foundation system needs to be removable so that the tundra will not be seriously damaged after the foundation has been removed.

Piles have not been removed in the past, and therefore, research needs to be conducted to make sure that the proposed pile design meets all the requirements for the capacity, permafrost protection and the ease of removal.

Goals and Objectives

The following objectives were set for the initial load testing conducted in November 2002 at the Alaska Telecom Inc. (ATI) site in Prudhoe Bay:

- 1. Assure that the piles can be installed and removed without major problems.
- 2. Assure that the piles can carry the design load for the design life of 2 years without instantaneous failure or excessive creep displacement.
- 3. Provide information and experience for future testing.

The purpose of this report is to describe the pile tests performed, analyze the test results and give recommendations for implementation and future research.

Scope of the Work

A testing plan was created based on ASTM D 5780 Standard Test Method for Individual Piles in Permafrost Under Static Axial Compressive Load (1995). The test results were analyzed and recommendations for implementation and future research were given.

MATERIALS

Test Legs

The two Spiral Legs tested were designed and constructed by Radoil Inc. A photo of the spirals is given in Figure 1 and a schematic picture is given in Figure 2. The total length of each leg was 8.839 m (29 ft), embedment depth into the permafrost was 4.27 m (14 ft), the inner diameter was 314 mm (12.347 in) and the outer diameter was 340 mm (13.375 in). The bottom 1.524 m (5 ft) had an inner diameter of 194 mm (7.625 in) and outer diameter of the smooth leg of 219 mm (8.625 in) with spirals extending the outer diameter to 333 mm (13.125 in). The spirals had a 152-mm (6-in) lead making the spiral angle 12.44°. The spirals were hollow having a 10-mm (0.375 in) wall thickness. A small pipe was designed to carry heated liquid from the top of the spiral to the bottom and back to the surface through the inside of the leg. The leg material was carbon steel with a Young's modulus of 200,000 MPa (29,000,000 psi).

Additionally, a smooth leg and two Vertical Support Members (VSM's) were installed. The smooth leg was used as a control leg for the removal experiment and the VSM's provided reaction forces for the compressive test load.



Figure 1 Spiral legs

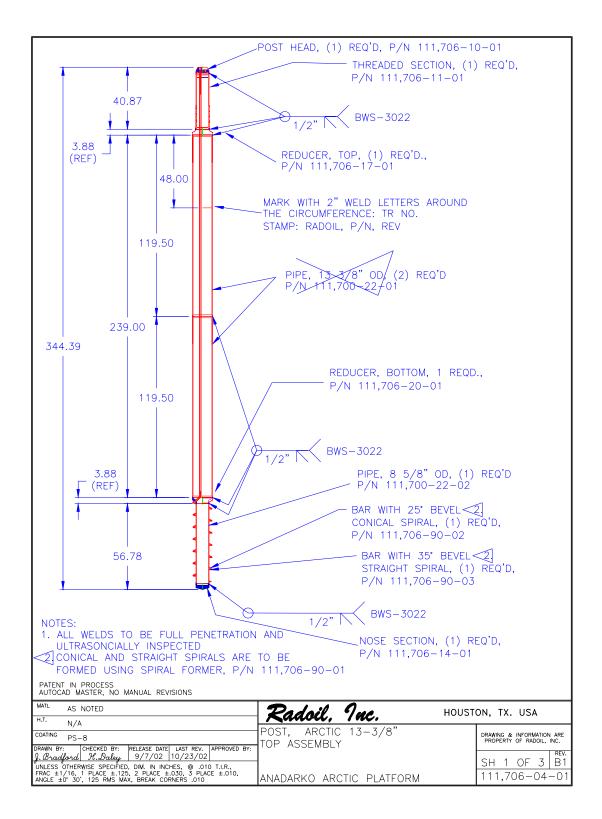


Figure 2 Schematic picture of spiral legs

Soils

The sand slurry used to backfill the holes was well graded sand with silt and gravel, SW-SM (Alaska Testlab, 2002) The gradation is given in Table 1. A water content of 7.6% was determined in the UAA Soils Laboratory and 7.7% by Alaska Testlab.

U.S. Sieve (opening, mm)	Passing %	Sieve Size	Passing %
1/2 in (12.70 mm)	100	No. 40 (0.425 mm)	19
3/8 in (9.52 mm)	98	No. 60 (0.250 mm)	12
No. 4 (4.75 mm)	64	No. 100 (0.150 mm)	7
No.10 (2.00 mm)	40	No. 200 (0.075 mm)	5.3
No. 20 (0.85 mm)	29		

Table 1 Soil Gradation (Alaska Testlab, 2003)

Michael Baker, Jr. Inc. (2002) logged the drilling of the piles and prepared a separate geotechnical report for the native soils. The following summarizes the soil strata shown in Figure 3.

The existing soil consisted of a 1.2 to 1.8-m (4 to 6 ft) thick fill and native soil beneath it. The fill material was poorly graded gravel with sand. The native soil around the spiral legs consisted of a organic to sandy silt layer of 0.6 m to 0.9 m (2 to 3 ft), beneath which Spiral Leg #2 had a 0.6-m (2ft) gravel layer and 2 m (7 ft) thick ice lens. Spiral Leg #3 had a 3.0-m (10ft) thick ice lens with air bubbles directly underneath the silt. A gravel layer with silt or sand started at a depth of 5.2 m to 5.8 m (17 to 19 ft) from the soil surface.

	Fill, poorly graded gravel w/ sand frozen to 3.5' saturated to 6.5' Organic silt changing to sandy	100% ice with 20% air, vertical stratified	Poorly graded gravel w/ sand & 30% ice Poorly graded gravel w/ sand & 10 - 20% ice	Poorly graded gravel with sand	Denotes Thawed			
MSV	5 B	Ice	5 5	5	TD - 35'			
50	Fill, poorly graded gravel w/ sand (25%), frozen to 3', saturated to 6.5'	organic organic	lce, lots of air bubbles	Ice, lots of air bubbles Poorly graded gravel w/ sand (35%), no ice Denotes Thawed				
Spiral Leg 3	5.	W	Ice	GP TD-21				
Spiral Leg 2	GP Fill, poorly graded gravel w/ sand, frozen to 3', saturated to 6' Organic silt GM Silty gravel w/ 15%	GM Silty gravel w/ some visible ice	lce	SM Silty sand w/ gravel w/ little to no ice ID - 21' Denotes Thawed				
Sp	Fill, poorly graded gravel w/ sand, frozen to 3', saturated to 6' Gravelly silt w/ little Gravelly silt w/ little	ittle	loe	Poorly graded sands w/ gravel	Denotes Thawed			
MSV	ටි I W	W.	e	ŝ	TD - 35'			
	Fill, poorly graded gravel w/ sand, frozen to 3', saturated to 6	Organic silt Ice		Poorly graded gravel w/ sand	Denotes Thawed			
Slick Leg 1	£	MI Ice		ð	TD - 31'			
from gravel surface	- 1 1 1 4 5 9 1	× 8 6 1	11 12 13 13 14 13	2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	33333333333			

6

TEST PROCEDURE

Test Setup

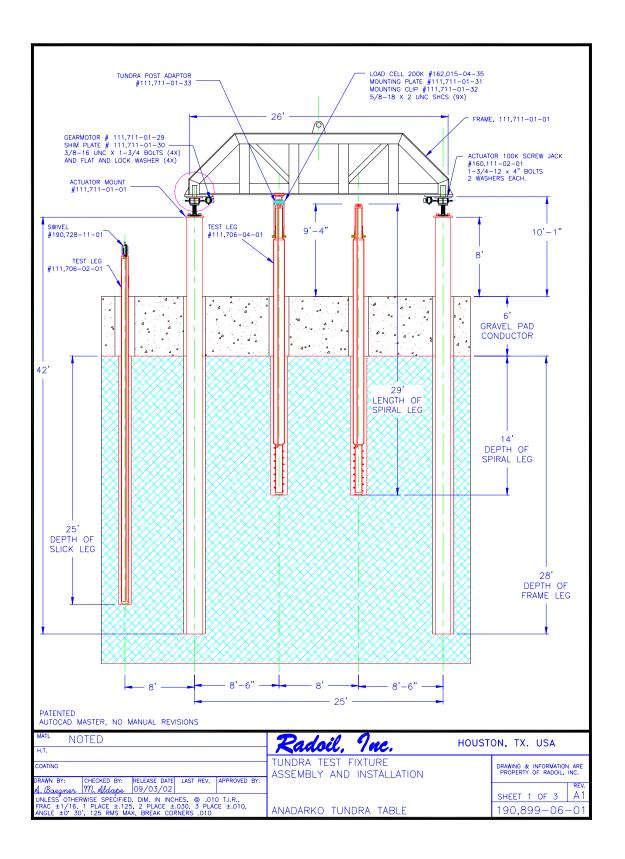
The test setup is shown in Figures 4 and 5. The test frame, load actuator and legs were designed by Radoil Inc. using a concept provided by Anadarko. The load was applied with two linear actuators at the top of the VSM's. The Radoil drawing number for the whole set up was 190,899-07-01 A4. A plan view of the test setup is given in Figure 6. The installation procedure by Anadarko is given in Appendix D-1 and a report of pile removal by Federico Lier in Appendix D-2.

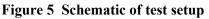
The Spiral Legs were suspended in augered holes with a 508-mm (20 in) diameter. The holes were backfilled with the sand slurry described earlier. The slurried legs were left to freeze for seven days. The top 1.8 m (6 ft) of each hole was not filled with slurry so that active layer forces would not affect the legs. Installation of the smooth leg and VSM's was similar to the Spiral Legs.

The testing followed the procedure outlined in ASTM D 5780 (1995). The following sections will summarize the testing and loading sequence.



Figure 4 Test setup





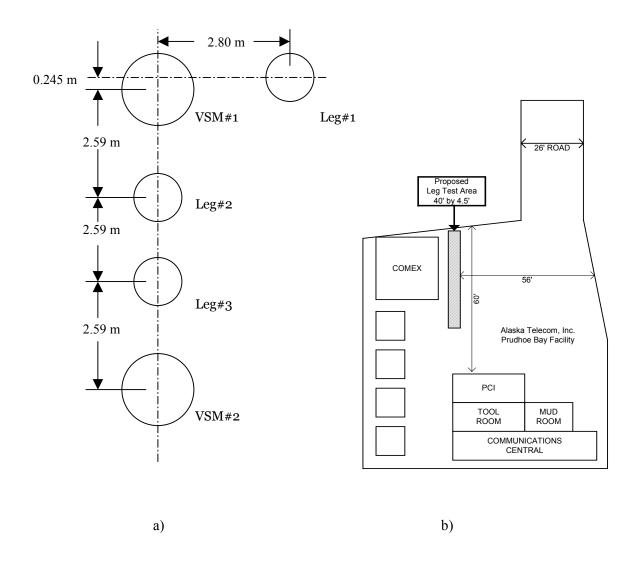


Figure 6 Plan view of test setup a) as built, b) site location (Radoil, Inc. 2002)

Apparatus for Measuring Movement

The primary method of measurement was a potentiometer (Figure 7) with an accuracy of 0.05 mm (0.001 in). ASTM D 5780 requirements call for an accuracy of 0.0025 mm (0.0001 in). The potentiometer accuracy was considered to be adequate for this phase of testing. The potentiometer was attached to a vertical carbon steel rod welded to a conductor that was used as a casing through the gravel pad at each hole (see Figures on page 3 and 4 in Appendix D-1).



Figure 7 Potentiometer for measuring displacement

Three secondary methods of measurements were used:

- 1. *A wire, scale and mirror (Figure 8).* A wire was stretched on the side of the test legs. The wire broke immediately and a thicker string was used instead. A scale and a mirror were mounted on the side of the leg such that the string passed clear of the face of the scale. The string was approximately 25 mm (1 in) from the scale. Vertical support angle irons were welded to the VSM conductors (see Figure on page 3 in Appendix D-1) that were considered to be as stable reference points as any other anchored reference system on the site. The other end of the wire was tied to one of the angle irons and the other end was hanging over the other angle iron and tied to a weight. The tension of the string was checked before each reading. The stainless steel scale had divisions up to 1/64 in. or 0.4 mm (0.016 in). The measurements were made by lining up the string, its mirror reflection and the scale. The length of the angle iron support at VSM #2 (closest to the smooth leg) was 1.585 m (5.2 ft) and at VSM #1 was 1.256 m (4.12 ft). The distance between the supports was 6.960 m (22.833 ft).
- 2. *A surveyor's level and a scale on the leg.* Permanent benchmarks were established outside the immediate test area. A transit was set up outdoors with a clear line of site to both the scale and the benchmarks (Figure 9).
- 3. *Dial gages.* The dial gages were accurate to 0.001 in. and two were used for the test. One to measure vertical movement and a second to measure horizontal or rotational movement (Figure 10).



Figure 8 Wire, scale and mirror for measuring displacement



Figure 9 Transit setup



Figure 10 Dial gage

Apparatus for Measuring Temperature

The temperature was measured using thermistors. A string of thermistors was installed in the augered hole of the smooth leg and the two Spiral Legs. Figure 11 details the positions of the thermistors on each of the legs. The air temperature was also measured using a thermistor. The accuracy of the thermistors was 0.2 °C (0.4 °F).

Apparatus for Measuring Load

The applied load was measured using a load cell with an accuracy of 1% of the load reading. The load cell can be seen in Figure 4 between the left most Spiral Leg and the testing frame.

Measuring and Recording Procedures

ASTM D 5780 requires displacement readings to be recorded at the following intervals: every 10 minutes during the first 30 minutes, every 20 minutes for the next 1 ½ hours, every hour for the next 10 hours, every 2 hours for the next 12 hours, every 6 hours thereafter. For the tests reported here, the displacement and the load were read ten times per second and stored once per second from the commencement of a test up to 24 hours after the load increment was removed.

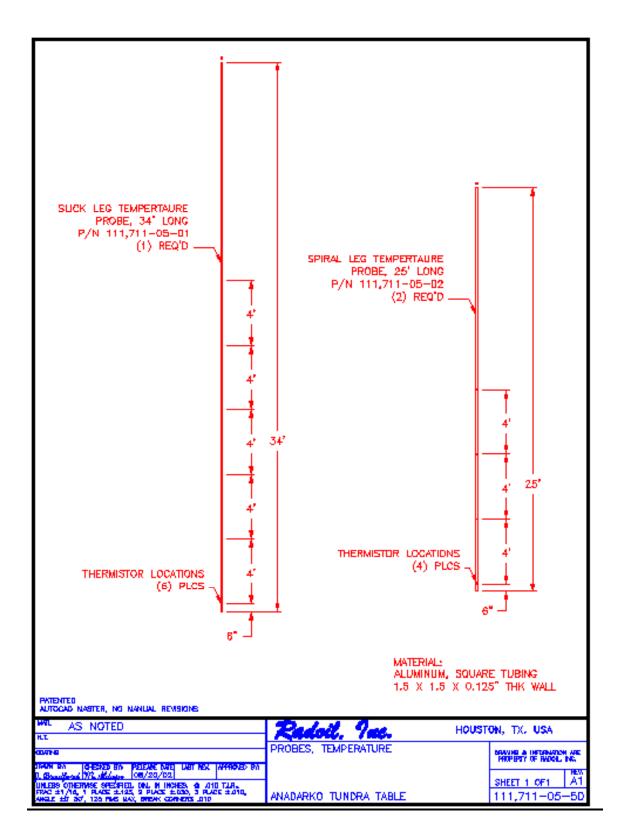


Figure 11 Thermistor strings

The secondary measurement devices were read periodically for backup data. The creep displacement readings were selected for plotting and analysis at each 0.0254 mm (0.001 in) during secondary creep and more often during the primary creep. ASTM D 5780 requests ground-temperature readings prior to the start of each load increment, after the completion of each load increment, and at least once per day during each load increment. For our tests, the air and ground temperatures were read 10 times per second and selected for analysis every 6.25 minutes.

Loading Procedure

The loads were applied in a continuous uniform manner until the test load was attained. The time to load was under 10 seconds except for the 445 and 667 kN (100 and 150 kips) loads. Since a mechanical actuator was used, it was not possible to maintain the load exactly at the designated level. The load ranges are given with the test results.

According to the ASTM D 5780 method, two types of loads are to be applied to the test legs: creep loads and failure loads. The creep load increments are maintained until a uniform rate of movement of the test leg is achieved for four consecutive measurement periods (at least 15 min apart) or for a minimum of 3 days (which ever is greater). If failure occurs before attaining uniform movement the load test on the leg may be terminated, or if after 7 days there is not uniform movement the test leg until failure occurs. If failure is not reached in 7 days the test increment may be terminated. When failure occurs or the test increment is terminated the applied load is to be removed and rebound measurements are to be taken for 24 hours.

No soil data for the site were available prior to installation of the legs that would assist in selecting proper load levels. The load levels of 222, 445 and 667 kN (50, 100 and 150 kips) were chosen based on the 667-kN (150 kips) capacity of the test frame. It was unknown prior to testing whether or not any of the loads would lead to a failure.

LOAD TEST ON PILE 1 (Spiral Leg #3)

A nominal load of 67 kN (15 kips) was applied on Spiral Leg #3 at 20:00 on November 8 to make sure that the loading and measurement apparatus worked properly.

The actual testing started at 12:21 on November 9 by applying a load of 222 kN (50 kips). The program was set up to keep the load between 213 and 222 kN (48 to 50 kips). The test was terminated at 13:57 on November 10. The creep rate had been stable for 20 hours.

A load of 445 kN (100 kips) was applied at 15:15 on November 10. The program was set up to keep the load between 440 and 445 kN (99 to 100 kips). The test was terminated at 9:53 on November 12. The creep rate had been stable for 40 hours.

A load of 667 kN (150 kips) was applied at 11:49 on November 12. The program was set up to keep the load between 440 and 445 kN (99 to 100 kips). One of the actuators failed during the load application, but the other actuator was able to bring the system up to the target load. The test was terminated at 9:17 on November 15. The creep rate had been stable for 65 hours.

LOAD TEST ON PILE 2 (Spiral Leg #2)

After the rebound had been measured for 2 hours, the load cell, potentiometer, and dial gages were removed from Spiral Leg #3. The load cell was moved along the truss by hand over Spiral Leg #2. The leg was placed in contact with the load cell, and the potentiometer and a dial gage were attached to the leg.

The wire, scale and mirror were not used for the testing of Spiral Leg #2, as the potentiometer, dial gage and transit measurement systems were reliable for the data recording and verification. The dial gage for vertical displacement was read periodically to verify the potentiometer readings. However, blowing snow and freezing temperatures affected the gage readings, and therefore the dial gage was not relied upon during testing of Spiral Leg #2. No rotation was observed for Spiral Leg #3, and therefore the dial gage used to measure the rotation was not used for Spiral Leg #2.

A nominal load of 67 kN (15 kips) was applied on the Spiral Leg #2 at 13:10 on November 15 to make sure that the loading and measurement apparatus worked properly. The actual testing started at 14:03 on November 15 by applying a load of 445 kN (100 kips). The program was set up to keep the load between 440 and 445 kN (99 to 100 kips). The test was terminated at 14:02 on November 18. The creep rate had been stable for 40 hours.

A load of 667 kN (150 kips) was applied at 15:00 on November 18. The program was set up to keep the load between 658 and 667 kN (148 to 150 kips). The test was terminated at 15:00 on November 23. The creep rate had been stable for 40 hours.

TEST RESULTS

Temperature Data

The measured ground temperatures for Spiral Legs are given and analyzed below with the displacement data. Temperature data from for the smooth leg and the ambient air are given in Appendix D-3. The season of October - November is the warmest period for permafrost below the ground surface, which is desired for permafrost pile testing. The measured temperatures showed that the permafrost was about 1°C (2°F) warmer at the depth of 4 m (14 ft) than in November of 1969, a value reported by Neukirchner (1984).

Spiral Leg #3

Data for the displacement, displacement rate and temperatures are given in Tables 2 to 5. The pile displacement with time is plotted in Figure 12 and the soil temperature with time in Figure 13. In the first test, 222-kN (50 kips) load on Spiral Leg #3, the creep reached the secondary creep rate at approximately 40 minutes. The average creep rate was measured to be 0.023 mm/hr (0.0009 in/hr). The pseudo-instantaneous displacement (obtained by intersecting the best fit line for the secondary creep data and the ordinate) was 0.38 mm (0.015 in). When the load was removed, an immediate rebound of 0.38 mm (0.015 in) was observed. When the test started, only the bottom 2.29 m (7.5 ft) of the pile was in frozen soil. The average temperature over the frozen part of the leg was $-2^{\circ}C$ (28°F). At the end of the test, an estimated of 2.44 m (8 ft) of the pile was in frozen soil. The average temperature over the load from the minimum set value to the maximum set value twice, at 3 hours and 54 minutes, and at 23 hours 29 minutes, which explains the small changes in the displacement rates at those times.

In the second test, 444-kN (100 kips) load on Spiral Leg #3, the creep reached the secondary creep rate at approximately 3 hours. The average creep rate was measured to be 0.026 mm/hr (0.0010 in/hr). The pseudo-instantaneous displacement was 1.04 mm (0.041 in). When the load was removed, an immediate rebound of 0.84 mm (0.033 in) was observed. When the test started, only the bottom 2.44 m (8 ft) of the pile was in frozen soil. The average temperature over the frozen part of the leg was -2° C (28°F). At the end of the test, an estimated of 3.66 m (12 ft) of the pile was in frozen soil. The average temperature over the pile was still about -2° C (28°F). The load actuator increased the load from the minimum set value to the maximum set value at about 18 hours, which explains the small change in the displacement rate at that time.

In the third test, 667-kN (150 kips) load on Spiral Leg #3, the creep reached the secondary creep rate at approximately three hours. The average creep rate was measured to be 0.027 mm/hr (0.0011 in/hr). The pseudo-instantaneous displacement was 1.52 mm (0.060 in). When the load was removed, an immediate rebound of 1.270 mm (0.050 in) was observed. When the test started, the bottom 3.66 m (12 ft) of the pile was in frozen soil. The average temperature over the frozen part of the leg was -2° C (28°F). At the end of the test, entire pile length of 4.27 m (14 ft) was in frozen soil. The average temperature over the pile was still about -2° C (28°F).

Spiral Leg #2

Data for the displacement, displacement rate and temperatures are given in Tables 6, 7 and 8. The pile displacement with time is plotted in Figure 14 and the soil temperature with time in Figure 15. In the first test, 444-kN (100 kips) load on Spiral Leg #2, the creep reached the secondary creep rate at approximately 8 hours. The average creep rate was measured to be 0.024 mm/hr (0.00094 in/hr). The pseudo-instantaneous displacement (obtained by intersecting the best fit line for the secondary creep data and the ordinate) was 1.07 mm (0.042 in). When the load was removed, an immediate rebound of 0.74 mm (0.029 in) was observed. When the test started, only the bottom 3.35 m (11 ft) of the pile was in frozen soil. The average temperature over the frozen part of the leg was -2° C (28°F). At the end of the test, entire pile length of 4.27 m (14 ft) was in frozen soil. The average temperature over the pile was about -2.5° C (27°F).

In the second test, 667-kN (150 kips) load on Spiral Leg #2, the creep reached the secondary creep rate at approximately 11 hours. The average creep rate was measured to be 0.020 mm/hr (0.00078 in/hr). The pseudo-instantaneous displacement was 1.55 mm (0.061 in). When the load was removed, an immediate rebound of 1.17 mm (0.046 in) was observed. The entire pile length of 4.27 m (14 ft) was in frozen soil during the whole test. The average temperature over the pile was about -2.5° C (27°F) at the beginning of the test and about -3.0° C (26.6°F) at the end of the test. The load actuator increased the load from the minimum set value to the maximum set value at about 18 hours, which explains the small change in the displacement rate at that time.

Secondary Displacement Measurements

Displacements from the secondary measurement systems are given in Table 9. The wire and mirror system measurements were close to potentiometer readings for Leg #3. This system was not used for Leg #2, as the dial gages were more accurate and easier to read. The dial gage confirmed the potentiometer readings. Possible rotation of the piles was measured for Spiral Leg #3 at load levels of 444 and 667 kN (100 and 150 kips). No rotation was observed.

Time	Displacement		t Time Displacement		Time Displaceme		cement	
hrs	mm 0.001 in		hrs	mm	0.001 in	hrs	mm	0.001 in
0.00	0.000	0	6.96	0.559	22	19.55	0.813	32
5E-3	0.305	12	8.18	0.584	23	20.80	0.838	33
14E-3	0.330	13	9.81	0.610	24	21.81	0.864	34
0.08	0.356	14	10.96	0.635	25	22.93	0.889	35
0.65	0.381	15	12.36	0.660	26	23.36	0.914	36
1.65	0.406	16	13.45	0.686	27	23.58	0.940	37
2.81	0.432	17	14.88	0.711	28	24.53	0.965	38
3.90	0.483	19	16.15	0.737	29	25.31	0.991	39
4.56	0.508	20	17.13	0.762	30			
5.65	0.533	21	18.41	0.787	31			

Table 2 Displacement data for Spiral Leg #3 with 222-kN (50 kips) load

Table 3 Displacement data for Spiral Leg #3 with 444-kN (100 kips) load

Time	Displacement		Time	Displa	cement	Time	Displa	acement	
hrs	mm	0.001 in	hrs	mm	0.001 in	hrs	mm	0.001 in	
0.00	0.000	0	7.36	1.219	48	24.96	1.702	67	
0.01	0.254	10	8.14	1.245	49	26.14	1.727	68	
0.02	0.787	31	8.71	1.270	50	27.24	1.753	69	
0.02	0.813	32	9.71	1.295	51	28.04	1.778	70	
0.04	0.838	33	10.49	1.321	52	29.24	1.803	71	
0.06	0.864	34	11.17	1.346	53	30.46	1.829	72	
0.15	0.889	35	12.14	1.372	54	31.54	1.854	73	
0.33	0.914	36	13.01	1.397	55	32.71	1.880	74	
0.45	0.940	37	13.52	1.422	56	33.67	1.905	75	
0.83	0.965	38	14.51	1.448	57	34.71	1.930	76	
1.27	0.991	39	15.84	1.473	58	35.96	1.956	77	
1.71	1.016	40	16.92	1.499	59	37.02	1.981	78	
2.16	1.041	41	17.54	1.524	60	37.82	2.007	79	
2.87	1.067	42	18.17	1.549	61	38.84	2.032	80	
3.91	1.092	43	18.79	1.575	62	39.89	2.057	81	
4.16	1.118	44	19.87	1.600	63	40.87	2.083	82	
4.94	1.143	45	21.22	1.626	64	41.94	2.108	83	
5.67	1.168	46	22.66	1.651	65				
6.69	1.194	47	23.66	1.676	66				

Time	Displacement		Time	Displa	cement	Time	Displa	Displacement		
hrs	hrs mm 0.001 in		hrs	mm	0.001 in	hrs	mm	0.001 in		
0.00	0.000	0	15.81	1.956	77	42.53	2.692	106		
0.03	1.245	49	16.69	1.981	78	43.79	2.718	107		
0.04	1.270	50	17.48	2.007	79	44.68	2.743	108		
0.05	1.295	51	18.66	2.032	80	45.73	2.769	109		
0.07	1.321	52	19.23	2.057	81	46.63	2.794	110		
0.10	1.346	53	19.98	2.083	82	47.98	2.819	111		
0.17	1.372	54	20.93	2.108	83	48.78	2.845	112		
0.29	1.397	55	22.06	2.134	84	49.56	2.870	113		
0.40	1.422	56	23.26	2.159	85	50.53	2.896	114		
0.64	1.448	57	24.16	2.184	86	51.41	2.921	115		
0.88	1.473	58	25.56	2.210	87	52.49	2.946	116		
1.38	1.499	59	26.68	2.235	88	53.49	2.972	117		
1.83	1.524	60	27.91	2.261	89	54.76	2.997	118		
2.26	1.549	61	28.84	2.286	90	55.73	3.023	119		
3.01	1.575	62	29.83	2.311	91	56.36	3.048	120		
3.41	1.600	63	30.36	2.337	92	57.28	3.073	121		
4.23	1.626	64	31.19	2.362	93	58.34	3.099	122		
4.98	1.651	65	32.01	2.388	94	59.49	3.124	123		
5.49	1.676	66	32.99	2.413	95	60.49	3.150	124		
6.36	1.702	67	34.09	2.438	96	61.59	3.175	125		
7.39	1.727	68	34.98	2.464	97	62.58	3.200	126		
8.11	1.753	69	36.09	2.489	98	63.59	3.226	127		
9.23	1.778	70	36.56	2.515	99	64.59	3.251	128		
10.09	1.803	71	37.51	2.540	100	65.48	3.277	129		
11.26	1.829	72	38.43	2.565	101	66.43	3.302	130		
12.34	1.854	73	39.34	2.591	102	67.44	3.327	131		
13.14	1.880	74	40.16	2.616	103	68.63	3.353	132		
14.46	1.905	75	40.91	2.642	104					
15.23	1.930	76	41.93	2.667	105					

Table 4 Displacement data for Spiral Leg #3 with 667-kN (150 kips) load

Date	Time	Depth, m (ft)			Date	Time	Depth, m (ft)				
dd-mm	hrs	0.61	1.83	3.05	4.27	dd-mm	hrs	0.61	1.83	3.05	4.27
		(2)	(6)	(10)	(14)			(2)	(6)	(10)	(14)
2-Nov	0	4.2	3.1	4.2	0.2		266	-0.7	-1.6	-3.1	-3.9
3-Nov	25.5	-0.1	1.0	-0.2	-0.7	14-Nov	280	1.1	-1.4	-3.2	-3.8
4-Nov	40	-0.3	1.0	-0.2	-0.7		290	0.2	-1.6	-3.2	-3.9
	50	0.0		-0.3	-1.6	15-Nov	304	1.8	-1.6	-3.3	-4.1
5-Nov	63	0.0	2.2	-0.5	-2.0		314	0.0	-2.1	-3.3	-4.2
	74	0.0		-0.6	-2.2	16-Nov	328	3.5	-1.9	-3.3	-4.0
6-Nov	88	-0.1		-0.8	-2.9		338	1.2	-1.8	-3.3	-4.0
	98	-0.1		-1.1	-3.4	17-Nov	352	0.6	-2.1	-3.4	-4.2
7-Nov	111	-0.1		-1.5	-3.6		362	-0.8	-2.1	-3.4	-4.3
	122	-0.1		-1.7	-3.7	18-Nov	376	-0.1	-2.2	-3.5	-4.3
8-Nov	136	-0.1		-2.0	-3.8		386	-1.6	-2.3	-3.4	-4.1
	146	-0.3	0.0	-2.1	-3.9	19-Nov	400	-0.1	-2.2	-3.5	-4.1
9-Nov	160	0.4	0.4	-2.3	-3.8		410	0.2	-2.1	-3.5	-4.0
	170		0.4	-2.4	-3.9	20-Nov	424	-0.7	-2.4	-3.5	-4.2
10-Nov	184	0.0	0.4	-2.6	-4.0		434	-0.8	-2.4	-3.6	-4.3
	194	-0.3	-0.1	-2.7	-3.9	21-Nov	448	-1.6	-2.6	-3.6	-4.3
11-Nov	208	0.6	-0.2	-2.9	-4.2		458	-1.6	-2.5	-3.5	-4.1
	218	1.0	-0.2	-2.9	-4.1	22-Nov	472	-1.9	-2.6	-3.6	-4.2
12-Nov	232	-0.6	-1.3	-3.0	-4.2		482	-1.8	-2.6	-3.6	-4.2
	242	-0.1	-1.4	-3.1	-4.2	23-Nov	496	-1.5	-2.5	-3.6	-4.1
13-Nov	256	0.0	-1.4	-3.1	-3.9						

Table 5 Temperature data for Spiral Leg #3, °C

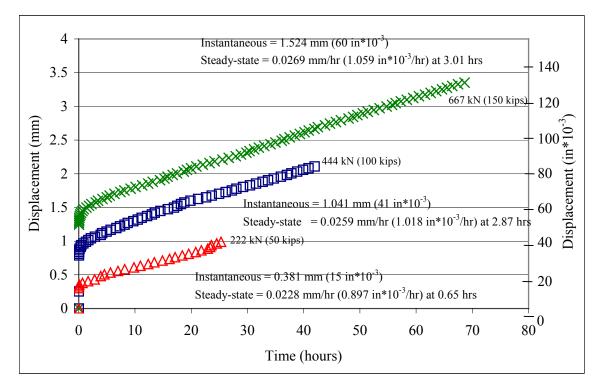


Figure 12 Pile displacement with time for Spiral Leg #3

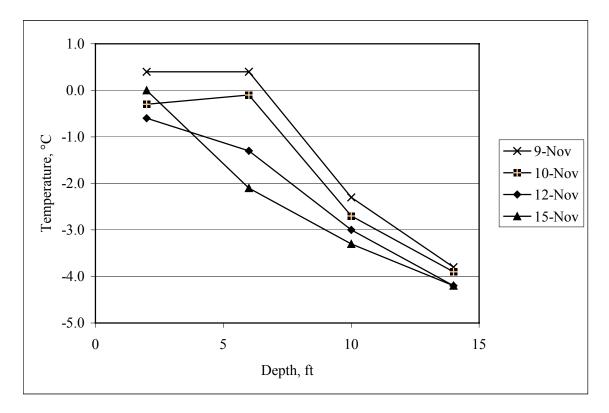


Figure 13 Pile temperature with depth for Spiral Leg #3

Time	Displacement		Time	Displa	cement	Time	Displacement	
hrs	mm	0.001 in	hrs	mm	0.001 in	hrs	mm	0.001 in
0.00	0.000	0	1.06	0.914	36	30.03	1.803	71
0.0005	0.025	1	1.56	0.940	37	30.93	1.829	72
0.0017	0.051	2	1.78	0.965	38	31.88	1.854	73
0.0022	0.076	3	2.45	0.991	39	32.44	1.880	74
0.0030	0.102	4	3.25	1.016	40	33.13	1.905	75
0.0035	0.127	5	3.56	1.041	41	33.84	1.930	76
0.0042	0.152	6	4.26	1.067	42	34.68	1.956	77
0.0047	0.178	7	5.11	1.092	43	35.58	1.981	78
0.0052	0.203	8	6.05	1.118	44	36.56	2.007	79
0.0058	0.229	9	6.56	1.143	45	37.68	2.032	80
0.0060	0.254	10	7.16	1.168	46	38.43	2.057	81
0.0063	0.279	11	7.81	1.194	47	39.26	2.083	82
0.0072	0.305	12	8.85	1.219	48	40.11	2.108	83
0.0077	0.330	13	10.23	1.245	49	41.29	2.134	84
0.0085	0.381	15	10.96	1.270	50	42.21	2.159	85
0.0092	0.406	16	11.50	1.295	51	43.66	2.184	86
0.0093	0.432	17	12.65	1.321	52	45.03	2.210	87
0.0097	0.457	18	13.98	1.346	53	45.96	2.235	88
0.0102	0.483	19	14.91	1.372	54	47.08	2.261	89
0.0108	0.508	20	16.06	1.397	55	48.46	2.286	90
0.0110	0.533	21	17.16	1.422	56	50.38	2.311	91
0.0117	0.559	22	17.80	1.448	57	51.84	2.337	92
0.0133	0.584	23	18.45	1.473	58	53.3613	2.362	93
0.0163	0.610	24	19.46	1.499	59	54.4113	2.388	94
0.0183	0.635	25	20.24	1.524	60	55.1780	2.413	95
0.0230	0.660	26	21.24	1.549	61	57.2780	2.438	96
0.0352	0.686	27	22.24	1.575	62	59.4947	2.464	97
0.0430	0.711	28	23.13	1.600	63	62.0947	2.489	98
0.0463	0.737	29	24.08	1.626	64	64.2947	2.515	99
0.0963	0.762	30	24.73	1.651	65	65.9613	2.540	100
0.1630	0.787	31	25.31	1.676	66	67.5113	2.565	101
0.1963	0.813	32	26.09	1.702	67	69.1447	2.591	102
0.3130	0.838	33	26.96	1.727	68	70.2947	2.616	103
0.5963	0.864	34	27.71	1.753	69	71.8280	2.642	104
0.6797	0.889	35	28.93	1.778	70			

Table 6 Displacement data for Spiral Leg #2 with 442-kN (100 kips) load

Time	Displa	cement	Time	Displa	cement	Time	Displa	cement
hrs	mm	0.001 in	hrs	mm	0.001 in	hrs	mm	0.001 in
0.0000	0.000	0	23.52	2.007	79	69.49	2.972	117
0.0158	0.610	24	24.77	2.032	80	71.11	2.997	118
0.0233	0.787	31	25.64	2.057	81	72.74	3.023	119
0.0400	1.092	43	26.82	2.083	82	73.86	3.048	120
0.0567	1.143	45	28.49	2.108	83	75.24	3.073	121
0.0717	1.168	46	29.39	2.134	84	76.72	3.099	122
0.10	1.194	47	30.69	2.159	85	78.36	3.124	123
0.14	1.219	48	31.79	2.184	86	79.96	3.150	124
0.24	1.245	49	33.34	2.210	87	81.37	3.175	125
0.39	1.270	50	34.16	2.235	88	82.29	3.200	126
0.56	1.295	51	35.49	2.261	89	83.29	3.226	127
0.84	1.321	52	36.67	2.286	90	84.54	3.251	128
1.21	1.346	53	37.72	2.311	91	85.96	3.277	129
1.56	1.372	54	38.91	2.337	92	87.52	3.302	130
2.21	1.397	55	40.19	2.362	93	88.99	3.327	131
2.64	1.422	56	41.71	2.388	94	90.64	3.353	132
3.42	1.448	57	42.32	2.413	95	92.31	3.378	133
4.06	1.473	58	43.62	2.438	96	93.59	3.404	134
4.84	1.499	59	44.46	2.464	97	94.89	3.429	135
5.29	1.524	60	46.16	2.489	98	96.07	3.454	136
6.01	1.549	61	47.27	2.515	99	97.69	3.480	137
6.92	1.575	62	48.36	2.540	100	99.11	3.505	138
7.41	1.600	63	49.77	2.565	101	100.71	3.531	139
8.59	1.626	64	51.12	2.591	102	102.11	3.556	140
9.52	1.651	65	52.42	2.616	103	103.74	3.581	141
10.22	1.676	66	53.26	2.642	104	105.47	3.607	142
11.21	1.702	67	54.59	2.667	105	107.17	3.632	143
11.96	1.727	68	55.64	2.692	106	108.59	3.658	144
12.66	1.753	69	56.91	2.718	107	110.02	3.683	145
13.62	1.778	70	57.96	2.743	108	111.26	3.708	146
14.82	1.803	71	58.99	2.769	109	112.42	3.734	147
15.22	1.829	72	60.24	2.794	110	113.82	3.759	148
16.36	1.854	73	61.61	2.819	111	115.04	3.785	149
17.72	1.880	74	63.26	2.845	112	116.56	3.810	150
18.51	1.905	75	64.29	2.870	113	117.99	3.835	151
19.92	1.930	76	65.26	2.896	114	119.46	3.861	152
21.34	1.956	77	66.39	2.921	115			
22.19	1.981	78	68.04	2.946	116			

Table 7 Displacement Data for Spiral Leg #2 with 667-kN (150 kips) load

Date	Time		Depth	n, m (ft)		Date	Time	Depth, m (ft)			
dd-mm	hrs	0.61	1.83	3.05	4.27	dd-mm	hrs	0.61	1.83	3.05	4.27
		(2)	(6)	(10)	(14)			(2)	(6)	(10)	(14)
2-Nov	0	5.8	3.9	0.5	-0.3		266	0.4	-1.2	-1.6	-4.1
3-Nov	25.5	-0.1	0.1		-0.7	14-Nov	280	0.5	-1.3	-1.4	-4.1
4-Nov	40	0.0	-0.1	0.1	-1.0		290	0.5	-1.5		-4.1
	50	0.0	-0.1	0.5	-1.1	15-Nov	304	0.7	-1.5		-4.1
5-Nov	63	0.0	-0.1	-0.2	-1.7		314		-1.6		-4.2
	74	0.0	-0.1		-2.2	16-Nov	328		-1.7		-4.1
6-Nov	88	0.0	-0.1	-0.2	-2.7		338	0.1	-1.7		-4.1
	98	0.1	-0.1		-3.1	17-Nov	352	-0.1	-1.7		-4.2
7-Nov	111	0.1	0.0	-0.3	-3.3		362	-0.4	-1.9		-4.2
	122	0.1	-0.1	-1.0	-3.4	18-Nov	376	-0.7	-1.9		-4.2
8-Nov	136	0.5	-0.1	-1.6	-3.5		386	-1.1	-2.0		-4.2
	146	0.6	-0.2	-1.8	-3.6	19-Nov	400	-1.1	-2.1		-4.2
9-Nov	160	0.9	-0.2	-2.0	-3.8		410	-1.5	-2.1		-4.2
	170	1.2	-0.2	-2.0	-3.8	20-Nov	424	-1.7	-2.2		-4.2
10-Nov	184	0.0	-0.2	-2.1	-3.9		434	-1.9	-2.3		-4.2
	194	-0.1	-0.3	-2.5	-3.9	21-Nov	448	-2.1	-2.4		-4.2
11-Nov	208	-0.1	-0.4	-2.3	-3.9		458	-2.2	-2.4		-4.2
	218	0.0	-0.4	-2.1	-4.0	22-Nov	472	-2.4	-2.5		-4.2
12-Nov	232	-0.1	-0.6	-1.8	-4.1		482	-2.4	-2.5		-4.2
	242	0.1	-0.8	-1.6	-4.1	23-Nov	496	-2.5	-2.5		-4.2
13-Nov	256	-0.1	-1.0	-1.6	-4.1						

Table 8 Temperature Data for Spiral Leg #2, °C

 Table 9 Primary vs. Secondary Displacement methods

Leg 3 (All values are the change from the initial value)									
Time (hours)	Temperature °C	Potentiometer (in)	Transit (in)	Dial Gage (in)	Wire (in)				
0	-17.0	0.000	0	-	0				
21.81	-13.6	0.034	0.9375	-	0.016				
27.35	-13.0	0.060	-	-	0.047				
44.45	-17.0	0.083	-	-	0				
Leg 2 (All values are the change from the initial value)									
Time (hours)	Temperature °C	Potentiometer (in)	Transit (in)	Dial Gage (in)	Wire (in)				
0	-13.0	0	0	0	-				
24.02	-10.6	.067	-	.067	-				
91.55	-22.4	.153	-	.156	-				
95.17	-22.8	.156	-	.1585	-				

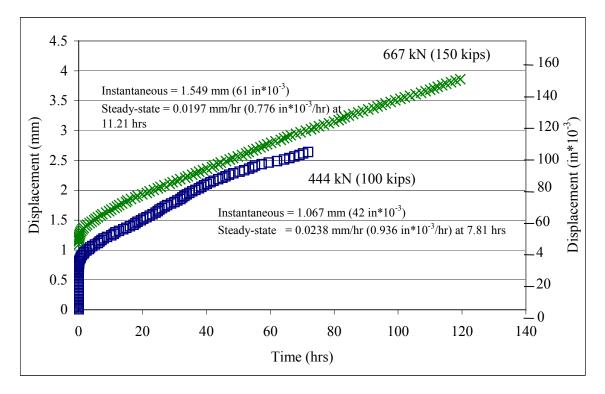


Figure 14 Pile displacement with time for Spiral Leg #2

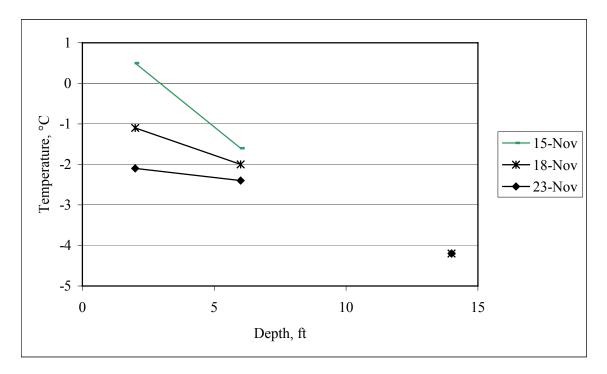


Figure 15 Temperature with time for Spiral Leg #2

PILE INSTALLATION AND REMOVAL

Accoring to Federico Lier (personal correspondence and report in Appendix D-2), the pile installation proceeded without any difficulties and did not differ from installation of smooth piles. The slurry was not vibrated when it was dropped to the oversized hole around the piles, which may have resulted in gabs directly below the helixes. Based on the tight schedule, the pile testing was started while the ground temperatures were still changing due to the freeze back of the warm slurry around the piles. The removal of piles was conducted by with a learning curve, but progressed mostly without difficulties. One of the legs had an obstruction in the fluid circulation system, refused to come out and was finally abandoned on the site. The pile was cut three feet below the ground surface.

Lier estimates that the total removal time per pile is estimated to be from 30 to 45 minutes and even less during production, as three to four piles can be hooked up to the steam plant at the same time.

CONCLUSIONS

The following conclusions that apply for the ice rich silty soil and pure ice found at the test site at the average temperature of $-2^{\circ}C$ (28°F) were obtained from the test results:

- The testing period represented the warmest permafrost temperatures, which is the worst case scenario for pile bearing capacity considerations and pile installation, and the best case scenario for pile removal.
- The Spiral Legs were installed with the same effort as smooth adfreeze piles. However, the slurry need to be vibrated during pouring to eliminate possible air gabs below the helixes. The Spiral Legs can be removed in an estimated 30 to 45 minutes assuming that the fluid circulation system works as designed.
- The test frame and the potentiometer functioned well for the given test period the air temperature being warmer than -23°C (-10°F). The dial gages worked well, too, and were handy in verifying the potentiometer readings.
- The observed pile displacement rate was about 0.025 mm/h (0.001 in/hr). With this rate, the allowable design displacement of 15 mm (0.60 in) would be reached in one month. The displacement rate was not affected significantly with the magnitude of the load. The capacity of the test frame did not allow for higher loads that would have led to a possibly higher displacement rates and failure.
- Vibration of the slurry during installation may improve the pile performance.

RECOMMENDATIONS

The following recommendations are made on the basis of the test results:

• More research before the Spiral Legs are used in the field.

- The following is recommended for possible future pile testing in the field: a larger capacity test frame (1334 to 1780 kN; 300 to 400 kips), a system that works down to -40°C (-40°F), and a flexible schedule to assure that the slurry around the pile is properly frozen. The slurry should be sampled at the plant, tested for gradation and water retention, and compared with the specifications. The slurry need to be vibrated around the piles.
- The idea of instrumentation of the actual Tundra Table Legs was considered. At this time, the authors and Dr. Helen Liu from the UAA consider that this data may not be usable for modeling purposes, because the piles will be installed in such a heterogeneous soil and the temperature is changing constantly. Laboratory testing in controlled environment would provide more valuable data. However, the instrumentation can be designed under a separate report if Anadarko wants to record a range of displacement for the Tundra Table sites.
- Since the spirals did not seem to offer the benefit of providing an acceptable displacement rate under the testing conditions, the future analytical and laboratory research should be optimizing the length of the smooth piles.

REFERENCES

Alaska Testlab, (2002), Laboratory Report for Michael Baker Jr. Inc for Anadarko Pile Test, reported 11/26/2002.

American Society for Testing and Materials, (1995). Designation: D 5780 Standard Test Method for Individual Piles in Permafrost Under Static Axial Compressive Load, West Conshohocken, PA.

Michael Baker Jr. Inc., (2002), Pile Test Geotechnical Investigation, submitted to Anadarko Petroleum Company.

Neukirchner, R. J., (1984) "Permafrost Temperature Profiles for Design of Piles by Creep Theory," Proceedings: Cold Regions Engineering Specialty Conference, April 4-6, 1984, Candadian Society for Civil Engineering, Montreal, Quebe





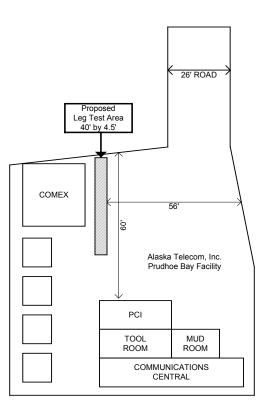
A. Leg Test Objectives

- 1. To test the vertical load bearing capacity of the leg in the permafrost.
- 2. To determine the response to cyclic loading of the leg.
- 3. To determine creep characteristics in both steady state and cyclic loading conditions.
- 4. To provide education and experience in the actual leg installation and removal process.
- 5. To establish the temperature profile outside of the leg during freeze-in, steady state, and meltout conditions.
- 6. To establish the amount of energy required for the melt-out process by monitoring the temperature of fluid in and fluid out of the leg when fluids are pumped through the legs circulation system.
- 7. Establish a working relationship with the local agencies and universities for future support.

B. Preparation

1. Test Site

a. The test site facility selected is the Alaska Telecom, Inc. Prudhoe Bay facility.

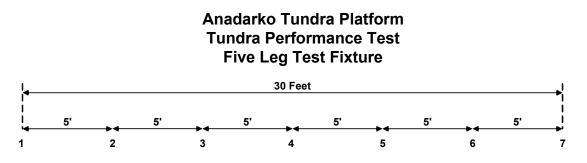






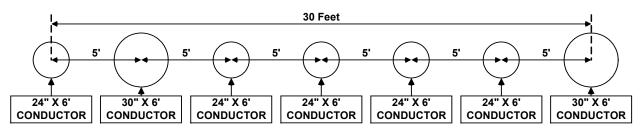
Tundra Platform Leg Test Program –V082102-1200

- 2. Survey and mark seven hole positions as outlined below
 - a. Insure area sufficient for maneuvering heavy equipment and handling 35 ft long leg sections. (Avoid risky areas with buri ed and/or aboveground power lines and guy wires).
 - b. Insure test fixture area selected is on level ground.



3. Insert five each 24" inch screw in conductors as indicated below.

Anadarko Tundra Platform Tundra Performance Test Five Leg Test Fixture



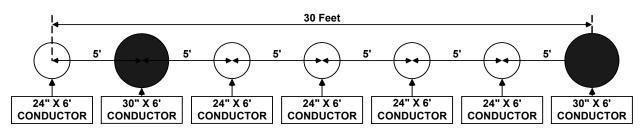
- a. Insertion shall be through the gravel pad until the surface of the tundra is encountered.
- b. Insure that Herculite or another suitable material is spread out to contain the soil/gravel removed from each hole, which will be in excess of 3 cubic feet per linear foot of depth. The material removed should be stored on site for use in filling the excavated holes upon completion of the leg test project.





4. Insert two each 30" screw in conductors as indicated below.

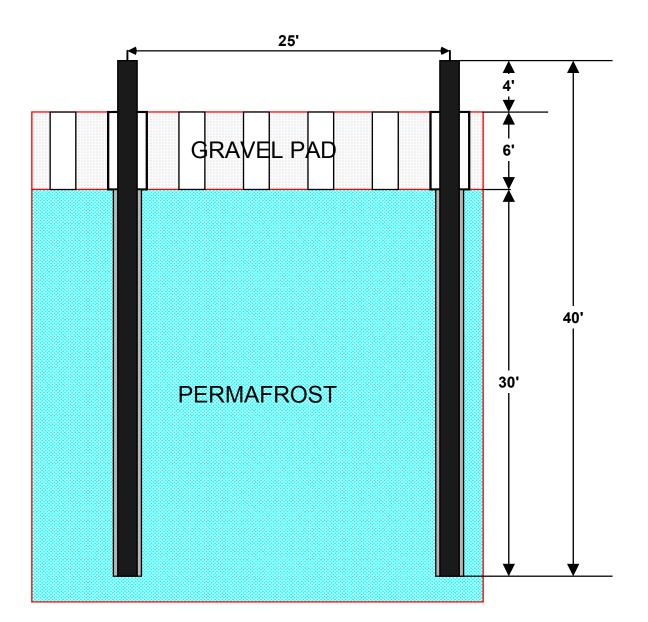
Anadarko Tundra Platform Tundra Performance Test Five Leg Test Fixture



- a. Insertion shall be through the gravel pad until the surface of the tundra is encountered.
- b. Insure that Herculite or another suitable material is spread out to contain the soil/gravel removed from each hole, which will be in approximately 5 cubic feet per linear foot of depth. The material removed should be stored on site for use in filling the excavated holes upon completion of the leg test project.
- 5. Drill two each 26 inch diameter holes to a depth of 30 feet below the tundra surface level.
 - a. Sediment removed from each hole will be approximately 140 cubic feet and should be stored on site to enable filling of excavated holes upon completion of the leg test project, or disposed of in accordance with local regulations.
- 6. Insert two each 18 inch diameter by 40 feet length VSMs into the 26 inch holes to a depth of thirty feet below tundra surface. Stickup of the VSM of 4 ft is required above the gravel pad. (Reference drawing schematic on page 4).
 - a. Slurry in place in the most optimum manner for quick freeze-in of the VSMs.







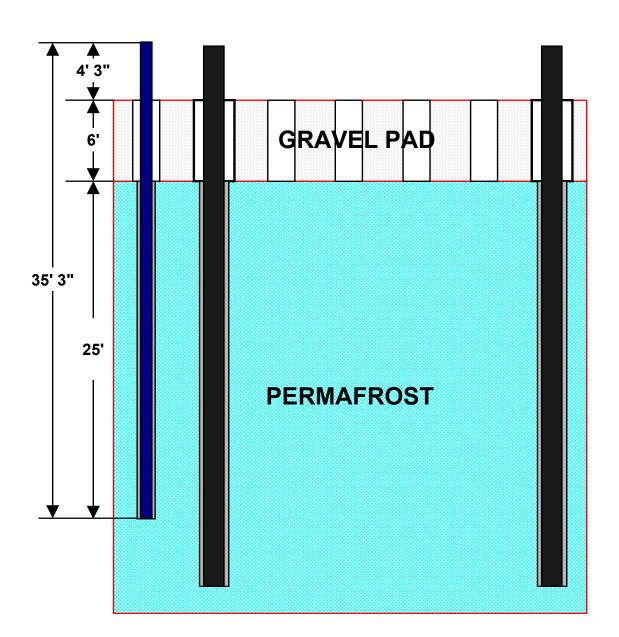




- C. Test Leg Installation
- 7. Installation of Non-Spiraled (Smooth OD) Leg.
 - a. Drill (auger) the left hole (#1) a 16 inch diameter to a depth of 25 feet below tundra surface level.
 - b. Sediment removed from this hole will be approximately 45 cubic feet and should be stored on site to enable filling of excavated holes upon completion of the leg test project, or disposed of in accordance with local regulations.
 - c. Using a crane with a swivel connection between the leg and load line, pickup leg number <u>983 800 1</u> and insert into the hole.
 - d. The leg should stop with the top 4' 3" above ground (gravel pad) level. Check to insure this measurement is accurate and also check with a level to ensure the leg is in a straight vertical position. Install wooden wedges between the leg and the caisson to ensure the leg remains true vertical.
 - e. Lower temperature sensor probe, which is a 34 ft length of 1 ½ inch square tubing, to a depth of 25 feet below tundra surface and secure to the leg above the surface level of the gravel pad. (Top is painted blue with wire spool attached).
 - f. Fill the annular void with sand and water slurry and allow leg to freeze in. Monitor temperature over time and observe and record when leg is firmly frozen in. (Reference drawing schematic on page 6).







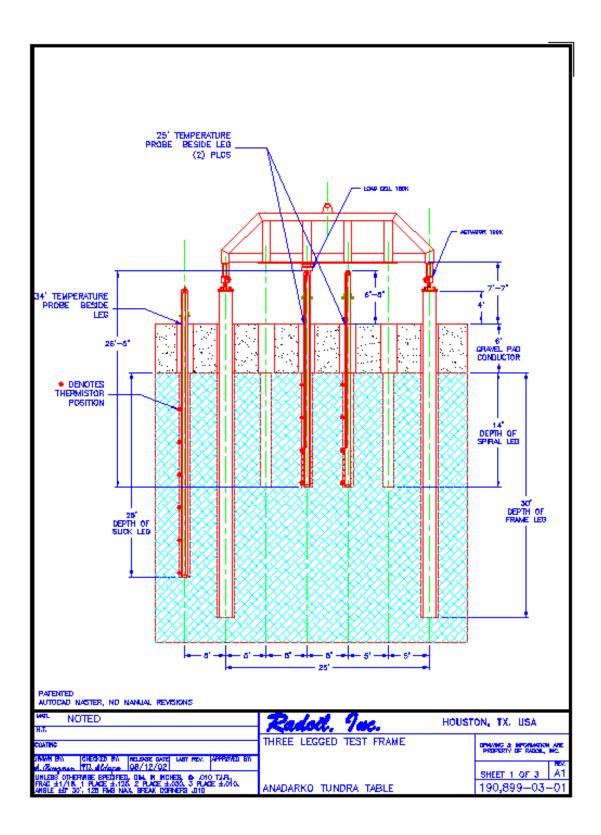




- 8. Installation of Helical Spiraled Leg(s).
 - a. Drill (auger) the holes four and five a 20 inch diameter to a depth of 14 feet.
 - b. Sediment removed from this hole will be approximately 25 cubic feet and should be stored on site to enable filling of excavated holes upon completion of the leg test project, or disposed of in accordance with local regulations.
 - c. Using a crane with a swivel connection between the leg and load line, pickup leg number <u>983 800 2 and 983 800 3 separately</u> and insert into the hole. The top of the legs should be 6' 5" above ground (gravel pad) level. Check to insure this measurement is accurate and also check with a level to ensure the leg is in a straight vertical position. Install wooden wedges between the leg and the caisson to inure the leg remains true vertical.
 - d. Lower temperature sensor probe on each leg, which is a 25 ft length of 1½ inch square tubing, to a depth of 14 ft below tundra surface and secure to the leg above the surface level of the gravel pad. (Top is painted blue with wire spool attached).
 - e. Fill the annular void with sand and water slurry and allow leg to freeze in. Monitor temperature over time and observe and record when leg is firmly frozen in. (Reference drawing schematics on pages 8 and 9).

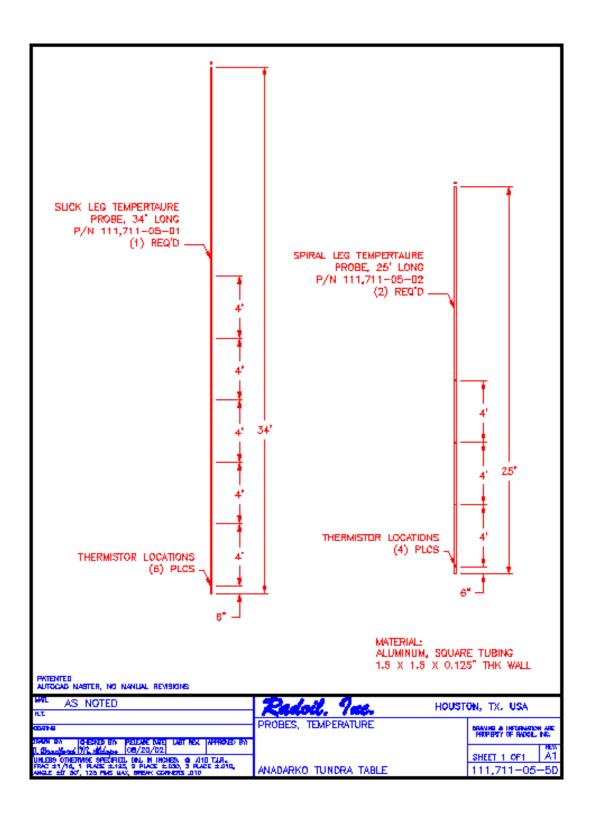
















D. Test Fixture Installation:

- 1. Lift the test fixture frame and set in position with the two connection plates landing on top of the 18 5/8 inch VSMs.
- 2. Weld the connection plates to the VSMs.
- 3. Connect the load cell to which ever leg is to be tested first.
- 4. Connect the data signal cables to the operators console.
- 5. Connect the electric cables to the electric supply circuit.

E. List of tools and equipment required:

- 1. Truck mounted auger drill with 12" and 16" augers available.
- 2. Crane with 50-ft boom, load line, fast line, and minimum of 15-ton capacity.
- 3. 25-ft tape measure.
- 4. 3-ft level.
- 5. Two each alignment strings.
- 6. Twelve 8-inch wooden chocks with strap handles and safety lanyard attached.
- 7. Portable steam jenny and water supply.
- 8. Leg swivel and hoses to connect to steam jenny.
- 9. Appropriate hand tools to attach swivel and connections.
- 10. One 8-ft stepladder.
- 11. One 20-ft telescoping ladder.

Observation, Conclusions & Recommendation for The Pile Load Test Leg Removal

by Federico Lier P.E. December 9, 2002

Observation

<u>Background:</u> Test Pile Leg#2 & 3 were tested for their load capacity. The bottom five feet is helical (spiral) and were placed 20 feet below existing ground surface of which 14 feet were embedded in gravel. Leg#1 is a slick pile and was placed 31 feet below ground surface of which 25 feet were embedded. The legs have internal piping to pump a cooling or heating media though it to speed the freeze back or their removal. Freeze back temperatures along the piles varied between 0 to -5 degrees Celsius. The steam applied had a temperature of 298 deg F at 50 psi. Temperature will vary with pressure.

The piles were removed on December 8, 2002. (See Daily Field Report 12-08-02 for a minute-by-minute log of the removal.

<u>Removal - Leg#2</u>: A fitting was welded to one of the openings to the heat/cooling pipe. Also two ³/₄ inches thick steel ears with a hole were welded on both sides of all three legs. This was needed to be able to pull on the piles. The existing pull



connecters could not be used as they inhibit the access to the heat/cooling coils. An air compressor was connected to Test Leg#2 pushing warm air through the heat/cooling

coils. The air was connected at the end of the day and left there for approximately 14 hours. Steam from a portable steam plan was connected to the heat/cooling coil. For about two to three minutes the

intake fitting was leaking and much steam escaped before entering the pile. Not much steam exited the end of the internal piping for about five minutes

after which an ample amount of steam escaped. Initial low escape and excessive leaking of steam would indicate that the steam condensed quickly at the beginning. 34 minutes after commencing the steaming Leg#2 was pulled out with a Case 821 (Front-end-loader/Fork-lift) with no visual resistance. This would indicate that the leg could have been pulled faster. The pile could then be removed with a crane (Grover RT 745).

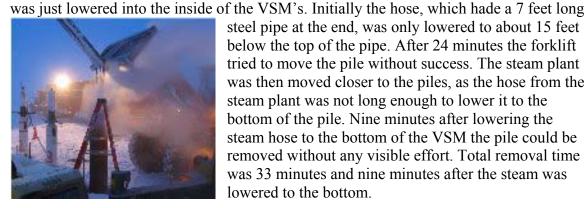




Removal - Leg#3: Compressed air was placed on this leg for about one hour. Steam was connected with no escape of steam from the outlet for approximately 5 minutes after which bubbling water escaped. The water was hot and at intervals sprayed into the air like a geyser. The Case 821 was hooked up to the leg after about 15 minutes but the leg would not move. The forklift was left with a constant pull so we would know when the leg was thawed sufficient to be pulled. This occurred after 22 minutes after connecting the steam.



Removal - Second VSM: As the top of both VSM's is open the steam hose



steel pipe at the end, was only lowered to about 15 feet below the top of the pipe. After 24 minutes the forklift tried to move the pile without success. The steam plant was then moved closer to the piles, as the hose from the steam plant was not long enough to lower it to the bottom of the pile. Nine minutes after lowering the steam hose to the bottom of the VSM the pile could be removed without any visible effort. Total removal time was 33 minutes and nine minutes after the steam was lowered to the bottom.

Removal – First VSM: Steam was lowered to the bottom of he VSM and pulled after 18 minutes without any visible effort of the forklift indicating that the pile could have been removed quicker.

Removal – Leg#3: As the air compressor was connected to the heat/cooling coil opening it became obvious that the heat/cooling pipe was plugged. The plug (ice, dirt or fabrication error) could not be removed even with high pressure. Steam was then connected with no steam escaping from the outlet. Most the steam escaped at the intake

fitting. Pile got hot at the first five feet. Pile would not move even with constant effort of the forklift. After 75 minutes the steamer was disconnect from the top and lowered on the outside of the pipe to a depth of approximately 17 feet below the ground surface. The water level rose to approximately three feet of the existing ground surface. 60 minutes later we decided to cut the top of the pile to lower the steam to the inside. Only one side of the heat/cooling coil had a pipe connected. The Steam was lowered but could not get passes ten feet because of an obstruction. Almost got the hose stuck and it took a consederable effort to get it untangled. We



continued to steam from the inside for another 60 minutes without success. It was then decided that we would cut the pipe and abandon it on site. The pile was cut three feet below the ground surface.

Other: The location for the test was marginal and the room to move equipment and piles was inadequate. At times the limited space was a safety hazard.

Equipment should be inspected and be in good working condition before moving to a remote location.

Conclusion

From the removal it became evident that steam is a quick and effective way to remove the

pipe out of the frozen ground. Steam is easy to produce and applied. Steam plants are readily available on the North Slope and mobile. Heat and pressure can be increased up to ~400 Degree Fahrenheit at 175 psi. Total removal time per pile is estimated at 30 to 45 minutes and less during production as three to four piles can be hooked up to the steam plant at the same time.



Recommendation

Several important observations were made, which need to be taken in to consideration for the successful removal of the tundra legs.

- For the steam to work it has to applied at the bottom of the pile.
- Heat/cooling inlet and outlet on the pile should be better accessible and not interfere with pull fittings.
- In and outlet of the heat/cooling should be tested for plugs and obstruction before leaving the manufacturer.
- In and Outlet should be capped and have a connector to easily fit the steam fittings so no field welding and changes will be needed.
- In and Outlet to the heat/cooling coil should be just above the ground surface. This would help to lower the distance the steam has to travel to reach the bottom of the pile, which will increase the removal of the pile and decrease condensation.
- Fittings on the steam plant and into the pile need to be tight.
- If the steam can be moved quickly to the bottom of the pile no hot air is needed to prewarm the steal.
- Piles should have a better mechanism for pulling and removal with the forklift/crane. The piles are to slick to be hoisted with a rope or chain. The existing mechanism is to cumbersome needing special tools and will slow down the removal process specially if temperatures are below freezing.

THERMISTOR DATA

Date	Time		Air					
		0.61.60	Temperature,					
dd-mm	hrs	0.61 (2)	2.13 (7)		4.57 (15)		7.62 (25)	°C
2-Nov	0	4.7	0.1	0.9	0.0	0.5	3.7	
3-Nov	25.5	3.1	0.5	-2.2	-3.8	-3.8	-2.3	
4-Nov	40	-0.4	-0.2	-2.7	-4.3	-3.9		
	50	2.6		-3.1	-3.6	-3.6		
5-Nov	63		-1.4	-3.3	-4.6	-4.2		
	74		-1.6	-3.3		-4.6		
6-Nov	88		-1.9	-3.4		-4.7	-4.3	
	98		-2.1	-3.4	-4.9	-4.5		
7-Nov	111		-2.3	-3.8	-4.0	-4.7		
	122		-2.4	-3.8	-4.9	-4.9	-4.6	
8-Nov	136			-3.7	-4.3	-4.9		
	146		-2.5	-3.8	-4.9	-4.9		
9-Nov	160		-2.7	-3.8	-4.7	-4.9		
	170		-2.4	-3.8	-4.3	-4.9		-17.0
10-Nov	184		-2.9	-3.8	-4.2	-5.0		-13.6
	194		-2.2	-3.9	-4.1	-5.0		-13
11-Nov	208	0.0	-2.5	-3.9	-4.2	-5.0	-5.5	-17.0
	218	-1.1	-3.2	-4.0	-5.2	-5.0	-5.5	-13.4
12-Nov	232	-1.1	-2.7	-3.9	-4.2	-5.0	-5.5	-13.06
	242	-1.4	-2.9	-3.9	-4.5	-5.0	-5.5	-13.92
13-Nov	256	-0.7	-2.5	-3.9	-4.3	-5.1	-5.6	-14.98
	266	-0.3	-2.2	-3.9	-3.8	-5.1	-5.6	-12.05
14-Nov	280	-0.5	-2.5	-4	-4.6	-5.1	-3.9	-14.31
	290	-0.7	-2.5	-4	-4.4	-5.1	-5.6	-14.43
15-Nov	304	-1.4	-3.1	-4	-5	-5.1	-4.9	
	314	-1.3	-2.7	-4	-4.3	-5.1	-5.6	-13.02
16-Nov	328	-1	-2.6	-4	-4.3	-5.1	-5.6	-7.67
	338	-0.9	-2.7	-4	-4.5	-5.1	-1.8	-10.57
17-Nov	352	-1.4	-3	-4	-4.7	-5.1		-18.23
	362	-1.3	-2.8	-4	-4.5	-5.1	-1.9	-20.84
18-Nov	376	-1.5	-3	-4	-4.7	-5.1	-5.6	-18.43
	386	-1.2	-2.9	-4	-4.3	-5.1	-4.2	-18.31
19-Nov	400	-1.4	-3.1	-4	-4.8	-5.1	-5.5	-22.36
	410	-1.2	-2.9	-4.1	-4.8	-5.2	-5.3	-22.83
20-Nov	424	-1.4	-3.1	-4.1	-4.6	-5.1	-5.2	-22.52
	434	-1.6	-3.1	-4	-4.8	-5.1	-4.8	-21.56
21-Nov	448	-1.6	-3.1	-4	-4.6	-5.1	-5	-22.31
211107	458	-1.3	-2.9	-4	-4.3	-5.2	-5.7	-20.88
22-Nov	472	-1.4	-2.9	-4	-4.3	-5.1	-5.6	-19.88
22 1107	482	-1.4	-2.9	-4.1	-4.5	-5.1	-5.6	-17.71
23-Nov	496	-1.5	-2.9	-4.1	-4.5	-5.1	-3.3	-14.45
23-1NOV	490	-1.3	-3	-4.1	-4.3	-3.1	-3.3	-14.43