PROJECT DESCRIPTION

CD5 DEVELOPMENT PROJECT

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF SHEETS – ALPINE SATELLITE DEVELOPMENT PROGRAM

23. CD-5 Proposed Cody Creek Bridge Pier Elevation
24. CD-5 Proposed Cody Creek Bridge West Abutment Plan
25. CD-5 Proposed Typical Culvert Cross Sections
26. CD-5 Proposed 2011-2012 Construction Ice Roads
27. CD-5 Proposed Insulated Conductors
28. CD-5 Proposed Road Erosion Protection Plan
29. CD-5 Proposed Road Erosion Protection Typical Sections
30. CD-5 Proposed Road Sections with Flood Elevations

LIST OF ATTACHMENTS

Attachment 1	Land Tenure Map
Attachment 2	Wildlife Avoidance and Interaction Plan

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1.0 APPLICANT

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2.0 PROJECT LOCATION

Sheets 1, 3, and 4 along with Table 1 show the project location including the CD5 drill site, road, and pipelines. The CD5 drill site will be located in the Colville River Unit (CRU) approximately 7 miles west/southwest of the existing Alpine Central Processing Facility (CD1) and 5 miles from CD4.

Table 1: Drill Site Location

Drill Site	Lease	Section	Township	Range	Latitude	Longitude
CD5	ASRC NPR4	18	11N	4E	70.3	-151.22

The CD5 drill site will be within the North Slope Borough (NSB) on a lease owned by CPAI and Anadarko Petroleum Company (Anadarko). The Kuukpik Corporation holds surface ownership of the drill site, road, and pipeline route with the exception of the bed of the Nigliq Channel, which is owned by the State of Alaska. ASRC owns the subsurface rights for the entire project area, as shown on the Land Tenure Map provided as Attachment 1. None of the project facilities would be on or near Native Allotments.

3.0 PROJECT OVERVIEW

CPAI proposes placement of 62.11 acres of fill material to construct the CD5 drill site, an access road including a spur to a pipeline valve, pipelines, bridge abutment, communication equipment, and power lines for oil and gas production. See Sheet 4 for specific gravel volumes and acreage of fill for the various project components. Volumes are final grade estimates.

4.0 PROJECT PURPOSE AND NEED

CPAI's purpose for placement of fill material is to construct a drill site and access road to facilitate the development of oil reserves. Oil, gas, and water produced from the reservoir will be carried via pipeline to Alpine's CD1 for processing. Sales quality crude will be transported from CD1 via the Alpine Oil Pipeline and Kuparuk Pipeline to the Trans-Alaska Pipeline. Lean gas and Kuparuk-supplied seawater will be delivered to the drill sites via pipelines from CD1 for injection into the reservoirs. The proposed drill site will be operated and maintained by Alpine staff and supported using CD1 infrastructure.

5.0 PROJECT BACKGROUND

5.1 History

Development in the CRU began with the Alpine CD1 and CD2 drilling sites and associated facilities. Oil production from CD1 commenced in November 2000 and from CD2 in November 2001.

In January 2003 the U.S. Bureau of Land Management (BLM) and cooperating agencies (U.S. Army Corps of Engineers [USACE], the U.S. Environmental Protection Agency [USEPA], the U.S. Coast Guard [USCG] and the State of Alaska) initiated the Alpine Satellite Development Plan (ASDP) Environmental Impact Statement (EIS) for the five proposed drill sites (CD3 through CD7). The Final EIS was issued in September 2004 and the BLM's Record of Decision, which governs the two satellites on BLM lands (CD6 and CD7), was issued in November 2004.

On August 23, 2004, CPAI requested prioritization of permits for CD3 and CD4 to meet the construction schedule for those two satellites. Most permits were issued by December 2004 and construction of CD3 and CD4 began in January 2005 and production began in 2006. Permitting for CD5 was temporarily suspended and is now included in this development application and Project Description.

5.2 Future Plans

Upon the successful permitting and construction of CD5, CPAI intends to submit applications for the Colville River Satellites CD6 and CD7, which were included in the ASDP and FEIS. The exact dates for these applications are unknown at this time.

6.0 CD5 DEVELOPMENT SCHEDULE

CPAI proposes to construct the CD5 facilities as follows:

- 4Q 2009 – Order long lead materials for Nigliq Channel bridge
- 4Q 2010 – Begin ice road construction in support of CD5 construction
- 1Q 2011 – Construct gravel road, pad, bridge piers & substructure
- Summer 2011 – Gravel mining and construction activities
- 4Q 2011 – Begin ice road construction in support of CD5 construction
- 1Q 2012 – Install vertical support members (VSMs), pipelines, and bridge superstructure
- 2Q & 3Q 2012 – Construct on-pad facilities
- 2Q 2012 – Begin drilling
- 4Q 2012 – First production

As detailed design progresses, the schedule may be modified. However, the identified work would occur in the indicated seasons and sequence. Workover operations would occur intermittently throughout the life of the field.

7.0 PROJECT COMPONENTS

The proposed project will consist of the following components.

On-pad facilities:

- Up to 33 wells
- Emergency shutdown valve skid
- Test separator
- Electrical control module
- Pig launching/receiving facility
- Chemical injection module
- Production heater
- Four new pipelines on VSMs to transport seawater, miscible injectant (MI), lean gas, and produced fluids between CD1 and CD5.
- Communication tower
- Lighting as needed

Other project components:

- 6.0 mile gravel access road from the CD4 access road near CD4
- 0.25 mile gravel access road east of CD5 road intersection for access to manual valve (see Sheet 8)
- 1405-foot vehicle and pipeline bridge across Nigliq Channel (see Sheet 8)
- 317-foot vehicle bridge across Lake 9841 paleochannel (see Sheet 8)
- 277 foot bridge across Cody Creek (see Sheet 9)
- 6.1 mile pipeline
- Power and communications lines supported by pipeline horizontal support members (HSMs) (see Sheet 6)

7.1 Drill Site Design and Facilities

The proposed drill site is designed to accommodate wells on 20-foot wellhead spacing. The shape and size of the pad, including gravel quantities, is shown in Sheet 5. Acreage includes area covered by 2:1 gravel pad side-slopes.

The pad will be constructed of a minimum of five feet of gravel fill with additional thickness as needed for thermal protection of permafrost. Area on the gravel pad will be provided for drill site facilities, valve shelters, rig movement, drilling material storage, and well work equipment. Reserve pits will not be constructed.

At this time, no processing of the production fluids beyond routine well testing and process fluid heating is planned at the drill site.

The pad will be oriented northeast to southwest to minimize snow accumulation on the site. Alpine's Storm Water Pollution Prevention Plan (SWPPP) will be amended to cover management of pad drainage. (see Sheet 5)

7.2 Pipelines

The pipelines will be supported on common VSMs. The MI and seawater pipelines will transport these fluids from CD1 to the CD5 drill site for injection. The production pipeline will transport produced fluids (crude oil, gas and water) from CD5 to CD1 for processing. A fourth pipeline will transport lean gas from CD1 to CD5 for artificial lift. The pipelines will be a minimum of 7 feet above the tundra as measured at VSMs. At each stream or river crossing, the pipeline will be maintained at the same elevation, thus providing higher pipe height across the stream and adjacent riparian habitat. Pipelines will be hydrotested prior to startup per the original code of construction (e.g., ASME B31.4 and B31.8).

The size of each pipeline is summarized below and on Sheet 6.

Table 2: Pipeline Sizes

Seawater	Production	MI	Lean Gas
10-inch	18-inch	8-inch	6-inch

The pipeline HSMs will be constructed to accommodate a possible future 24-inch production line.

Where possible, the pipelines will be constructed at least 350 feet away from the road to minimize caribou disturbance and to prevent excessive snow accumulation. A maximum separation distance of 1000 feet is typically maintained to allow visual surveillance from the road. The pipeline route is shown on Sheets 8 – 11 (see Sheet 7 for a key map).

7.3 Access Road

The proposed road route is on the same figures showing the pipeline route (Sheets 8 - 11). The road route was selected by evaluating the following considerations:

- Habitat including wetlands
- Archeological survey
- Grade
- Minimizing gravel footprint
- Cross drainage structures
- Load requirements
- Local community needs

The portion of the road within the delta is designed for the greater of a 50-year flood plus 3 feet (Q50 +3), thermal criteria for permafrost protection, or 50 year wind/wave criteria. The portion of the road outside (west) of the delta is designed for thermal criteria and Q50 + 3 for stream crossings. A typical cross section of the road outside the Delta is shown in Sheet 13. The road will have a crown width of 32 feet, a minimum base width of 54 feet and have a minimum gravel thickness of 5 feet with 2:1 side slope. The volume of gravel and area of fill are shown in the tables on sheet 4. A typical cross section for the road within the Delta is provided in Sheet 14. The in Delta road will have a crown width of 34 feet, minimum base width of 50 feet, and a minimum thickness of 5 feet with 2:1 side slopes.

Bridges and Culvert Batteries

Drainages within the project area are shown on Sheets 8, 9, 10, and 11. Bridges or culvert batteries are proposed for road crossings as illustrated on the Sheets 8, 9, 10 and 11. Sheet 15 through 21 show the respective bridge designs. The design of culvert batteries is shown on Sheet 22.

Maintenance of the Nigliq Channel bridges, if necessary, will be addressed in consultation with applicable regulatory agencies and local entities.

Road Culvert Placement

Cross drainage culverts will be placed in the road to maintain natural surface drainage patterns. Culvert locations will be optimized using aerial photography and site inspections by the design engineers during break-up. The majority of the culverts will be installed prior to break-up but additional culverts may be placed after break-up as site-specific needs are further assessed.

7.4 Power Source

Electric power for CD5 operations will be provided by the existing Alpine power system. The power lines will be suspended from pipeline HSMs via messenger cable (see Sheet 6). The drilling rig will initially be powered with on site diesel electric generators using low sulfur diesel fuel until the power cables are installed.

7.5 Material Site

Gravel required for construction of the drill site and access road will be obtained from the ASRC Mine Site located at T10N, R5E, Section 11 (see Sheet 12). Expansion to the existing permitted area is currently not planned.

7.6 Camp Requirements

No permanent camp facilities are required at CD5. All construction crews will be housed at the Alpine base camp, the Nuiqsut Hotel, or at a temporary camp at

the drill site or on an ice pad. A temporary camp will be used at CD5 during drilling.

8.0 ICE ROADS AND OTHER FRESH WATER REQUIREMENTS

Ice roads will be constructed to access construction areas for the road, bridge, pad, and pipelines. Separate ice roads are required for pipeline construction, gravel placement, and general traffic. Ice pads (approximately 400 ft. by 400 ft.) may be placed near the CD5 drill site, Alpine Facilities, and on both ends of the bridges to support construction and provide temporary storage space. Construction equipment will operate from river ice at the Nigliq Channel during bridge construction (see Section 21.0). Sheet 26 shows the approximate ice road routes to be constructed in the project area – exact routes may differ by up to a mile based on topography and other field conditions and their locations will be as-built when completed.

Fresh water is required for construction and maintenance of ice roads and ice pads, and for drilling activities. Temporary water use permits will be used for additional sources. Approximately 1 million gallons of water per mile are used for ice road construction and maintenance. Water withdrawals will be made in compliance with applicable regulatory and permit requirements.

9.0 DRILLING

Drilling will begin in the second quarter of 2012 and will continue until all planned wells are completed, estimated 12 to 16 months. The drilling rig and associated camp will initially be fueled by low sulfur diesel until power lines are installed.

10.0 FLUID STORAGE

Secondary containment for all fuel storage tanks will be a minimum of 100 percent of the volume of the single largest tank plus at least 10 percent for precipitation. Manifolded tanks without isolation valves will be treated as a single tank for calculating secondary containment requirements. Specific information on tanks and spill prevention details are contained in the contingency plans discussed in Section 13.0.

Diesel may be stored on site during drilling and construction operations. During the operations phase other fluid storage may include corrosion inhibitor, scale inhibitor, methanol, emulsion breaker and foam inhibitor.

11.0 NATIVE HIRE POLICY

CPAI is committed to continuing its partnership with local contractors and businesses in the development of CD5 through competitive bid contracting opportunities. When reasonably foreseeable to do so, CPAI has committed to hire and where appropriate to provide training to Kuukpik shareholders, Nuiqsut residents and Alaska Natives. When appropriate, local resident hire will continue to be coordinated through the Kuukpik employment coordinator to identify and

place qualified individuals interested in working on the project. In addition, CPAI and our contractors assist with scholarships, career training and internship opportunities to further expand local workforce capabilities and ensure that local residents are hired and retained as CPAI's employment requirements increase.

12.0 TRAINING

CPAI requires all North Slope employees and contractors to complete a minimum level of compliance training; however, specific activities or tasks an employee is assigned to perform will ultimately determine the extent of training required. An 8-hour unescorted training program provided by the North Slope Training Cooperative (NSTC) is the minimum requirement for employees of all operating companies and contractors working in or on the North Slope facilities and consists of: a general camps and safety orientation, a review of the Alaska Safety Handbook and training focused on environmental excellence, HAZWOPER First Responder Awareness, personal protective equipment, and hazard communication (HAZCOM). Company or contract employees who require access to operating facilities and well pads/drill sites may also require hydrogen sulfide training. Job specific and special awareness training driven by regulation or company policy include courses in: confined space entry procedures, respiratory protection, energy isolation procedures, fall protection, asbestos awareness, benzene awareness, electrical safety, hearing conservation, naturally occurring radioactive materials (NORM), Toxic Substances Control Act (TSCA), National Petroleum Reserve Alaska (NPRA) Orientation, static electricity, and cultural awareness training.

13.0 CONTINGENCY PLANS

CPAI will amend the existing Alpine Development Oil Discharge Prevention and Contingency Plan (ODPCP) and Alpine Spill Prevention, Control, and Countermeasure (SPCC) Plan to address construction and operation of the new CD5 drill site. The Alpine ODPCP complies with State of Alaska requirements in AS 46.03.020(10)(A) and 18 AAC 75 and federal Department of Transportation (DOT) requirements in 49 CFR 194. The SPCC Plan complies with federal EPA regulations in 40 CFR 112.

The intent of the ODPCP and SPCC Plan is to demonstrate CPAI's capability to prevent oil and hazardous materials spills from entering the water and land and to ensure rapid response if a spill event occurs.

13.1 Spill Prevention Measures

CPAI has designed the project facilities to minimize the possibility of spills. CPAI will also implement a pipeline maintenance and inspection program and an employee spill prevention training program to further reduce the likelihood of spills occurring.

CPAI will design and construct the pipelines to comply with all state, federal, and local regulations, and will go beyond those minimum requirements, as described below. The pipelines will be constructed of high-strength steel and will have wall thicknesses equal to or in excess of regulatory requirements. Welds will be validated using non-destructive examination (NDE) (i.e., radiography and ultrasonic) during pipeline construction to ensure their integrity, and the pipelines will be tested hydrostatically prior to operation. Manual valves will be placed on the production pipeline on both sides of the Nigliq Channel to minimize spill volume in the event of a release.

CPAI's design of production facilities will include provisions for secondary containment for hydrocarbon-based and hazardous materials, as required by state and federal regulatory requirements.

CPAI will provide regular training for its employees on the importance of preventing oil or hazardous material spills, and spill response. CPAI will provide new-employee orientation, annual environmental training seminars, and appropriate certification classes about specific issues, including spill prevention and response. CPAI employees will participate in frequent safety meetings, which will address spill prevention and response issues, as appropriate. The CPAI Incident Management Team will also participate in regularly scheduled training programs and will conduct spill response drills in coordination with federal and state agencies.

CPAI will conduct visual examinations of the pipeline and the project facilities, including conducting aerial overflights. Most of the flights will allow inspection both visually and with the aid of forward-looking-infrared (FLIR) technology. Infrared technology permits identification of spills based on the temperature "signature" resulting when warm fluid (oil) leaks. The FLIR technology is capable of detecting warm spots in darkness or when other circumstances such as light fog or drifted snow limit visibility. FLIR technology also has the ability to identify trouble spots along the pipeline, such as damaged insulation, before a problem occurs. CPAI will also conduct regular ground-based visual inspections of facilities and pipelines from gravel and ice roads.

13.2 State Spill Response Plan

CPAI will implement an oil spill contingency plan designed to minimize accidental oil spill impacts. The existing Alaska Department of Environmental Conservation (ADEC) approved Alpine ODPCP will be amended to include the CD5 drill site. Through the amended Alpine ODPCP, CPAI would ensure that readily accessible inventories of appropriate oil spill response equipment and personnel at Alpine will be available for use at the drill site. In addition, the spill response cooperative, Alaska Clean Seas (ACS), will act as CPAI's primary response action contractor and will provide trained personnel to manage all stages of a spill response, from detection, to containment and cleanup.

The threat to rivers and streams from a possible pipeline spill between the drill site and Alpine will be minimized by quickly intercepting, containing, and recovering spilled oil near the waterway-pipeline crossing points. The response strategy for CD5 involves two approaches (1) a design component, and (2) equipment pre-staging:

(1) The pipelines will be located north (downstream) of the road from CD4 westward until exiting the western edge of the delta, and will continue on the north side of the road outside of the delta until near their connection at the CD5 pad. In the delta, this location will prevent ice impacts to the pipelines during breakup because the road will act as a barrier to ice. Outside (west) of the delta the pipelines will also be on the north side of the road because the topography slopes toward the Nigliq Channel in this area and the road would act as a barrier to spilled oil reaching the Nigliq Channel. The road stream crossings will be used as the primary control points to contain the spilled oil. The road could be used for access and staging for spill response.

(2) Spill response equipment will be placed at the drill site for an initial response. This strategy will facilitate the rapid deployment of equipment by personnel. The effective response time would be considerably reduced by this pre-staging concept and this would expedite equipment deployment to contain and recover spilled oil and to minimize the affected area. During summer, pre-staged containment boom placed at strategic locations in selected river channels will also mitigate a spill and facilitate a response.

13.3 Federal SPCC Plan

The Alpine SPCC Plan will be implemented to prevent oil discharge to navigable waters of the United States. Presently, the Alpine ODPCP acts as the Alpine SPCC Plan, however an amended, stand-alone Alpine SPCC Plan will be established in accordance with Federal regulation. The Alpine SPCC Plan will incorporate a comprehensive spill prevention program to minimize the potential for oil discharges at Alpine facilities.

13.4 Subsidence Issues

Insulated conductors will be used to minimize subsidence issues and provide near well bore protection. Thermosyphons will be installed directly behind the wells to protect the pipe rack VSMs. Sheet 27 shows a cross section of a typical CD5 insulated wellhead conductor.

14.0 WILDLIFE ACCESS

A Wildlife Avoidance and Interaction Plan was developed in consultation with state/federal agency representatives. The Plan is applicable to all of CPAI's North Slope locations and is included as Attachment 2. CPAI will follow this Plan for the CD5 project and will update or modify the plan as necessary and in consultation with regulatory agencies and local residents.

15.0 COMMUNICATIONS

Fiber optic communications systems will link the satellite drill sites with CD1.

16.0 SNOW REMOVAL

A snow removal plan will be developed prior to commencement of drilling activities and incorporated in the Alpine Field Services Snow Removal Procedures. Alpine standard operating procedures require the use of snow blowing equipment to minimize gravel carry over to the tundra.

17.0 WASTE DISPOSAL

Drilling wastes (i.e., muds and cuttings) will be disposed of through annular disposal on-site and/or transported to an approved Class II disposal well such as the Alpine disposal well at CD1. Drill cuttings may be washed and reused. Reserve pits are not required. Well work waste materials will be managed according to the Alaska Waste Disposal and Reuse Guide. A temporary storage cell will be constructed for staging of muds and cuttings prior to disposal. Produced water will be processed and re-injected to the subsurface.

Sanitary wastes that may be generated from a temporary camp will either be disposed of through annular disposal on-site, hauled to the Alpine wastewater treatment system, or treated and discharged under the North Slope General NPDES Permit AKG-33-0000. Food waste will be incinerated at Alpine and non-burnables will be recycled or trucked to the NSB landfill at Deadhorse.

18.0 AIR EMISSIONS

Air emissions equipment is listed in the ADEC application for a minor air permit. Air quality impacts from the new sources will be minimized by compliance with emissions limits in the air permit. Emissions sources for construction, drilling, and production phases of the CD5 project are standard equipment that has been used on other recent drill sites on the North Slope.

19.0 CULTURAL RESOURCES

An archaeological survey of the project area has been conducted. Cultural resources will not be significantly impacted by the proposed project. The NSB, State, and local entities will be notified immediately in the event that prehistoric, historic, or archaeological objects are discovered during construction or operations.

20.0 EROSION CONTROL

The Alpine Facilities Erosion Control Plan will be updated to include drawings for CD5 as an appendix. Sheets 28 through 30 provide the erosion protection design for CD5. The erosion control plan outlines procedures for operation, monitoring, and maintenance of various erosion control methods. Erosion control at Alpine is accomplished using a combination of biotechnical and engineering

control (physical armor) methods. Temporary erosion protection will be placed before breakup following the first construction season to provide protection from a flood event. The temporary protection will be replaced with permanent erosion protection once the gravel has been allowed to season (settle and drain).

21.0 NIGLIQ CHANNEL BRIDGE CONSTRUCTION

Construction of the Nigliq Channel Bridge will necessitate temporary placement of equipment and materials on the channel ice. Ice will be thickened across the entire width of the channel for a length of approximately 200 feet upstream and downstream of the bridge. Additionally, temporary pile-supported platforms may be constructed to support the weight of large cranes. It is anticipated that up to three temporary 80 ft x 40 ft platforms will be required for installation of bridge piers. Cuttings from installation of the piers will be disposed at the ASRC mine site.

Due to safety and logistical concerns, CPAI requests approval to refuel equipment on the channel ice. Appropriate spill containment and CPAI's best practices will be used for all refueling. Traction material such as nut plug may be used on channel ice for safety purposes to prevent slips. Mixing of grout and concrete will be performed on channel ice with containment beneath these operations.

An insulated ice pad may be built to store bridge construction materials through the summer of 2011. The 400 foot by 400 foot pad would be composed of 25,000 cubic yards of ice. This 3.7 acre ice pad will be located north of the proposed CD5 gravel road intersection with the existing CD4 gravel road. No hazardous materials or fuel would be stored on the insulated ice pad.

Attachment 1
Land Tenure Map

Attachment 2
Wildlife Avoidance and Interaction Plan