APPENDIX B

Petroleum Development Corporation

Blue Sky CBM Project
Carbon County, Wyoming

Master Surface Use Program
for
Applications for Permit to Drill (APDs)

Land Involved: Sec. 32 & 33
T16N R91W, 6th P.M.

Sec. 4,5,8,9 &16
T15N R91W, 6th P.M.

BLM Leases (Wells):

WYW 141276
ARFederal 1591-1-5
ARFederal 1591-7-5
ARFederal 1591-9-5
ARFederal 1591-11-5
ARFederal 1591-13-5
ARFederal 1591-15-5
ARFederal 1591-3-8
ARFederal 1591-5-8
ARFederal 1591-9-8
ARFederal 1591-15-8

WYW 141277
ARFederal 1591-3-5
ARFederal 1591-5-5
ARFederal 1591-1-8
ARFederal 1591-7-8
ARFederal 1591-11-9
ARFederal 1591-15-9

WYW 148481
ARFederal 1591-3-9
ARFederal 1591-5-9
ARFederal 1591-13-9

PROJECT DESCRIPTION

The Petroleum Development Corporation (Pedco) Blue Sky Coalbed Methane (CBM) Project is located approximately 18 miles north-northeast of Baggs, Wyoming near the intersection of SH 789 and Carbon County Road 608 (Dad Road). Blue Sky is one of nine pods that comprise the Atlantic Rim Interim Drilling CBM Project. All 23 of the proposed CBM well sites and one existing CBM well site in the Blue Sky Project Area are located on surface ownership lands administered by the Bureau of Land Management (BLM) Rawlins Field Office. A total of 19 of the proposed wells would develop Federal minerals. The remaining four proposed wells would develop State minerals. The existing Blue Sky Project well, S&W State 1-16, is located on State of Wyoming mineral ownership lands. Plans for two injection wells were submitted separately.

Name, number, location, and lease information for the proposed wells are listed in **Table 1 - Blue Sky CBM Project Well Information** accompanying this Master Surface Use Program (MSUP). Refer to the enclosed **BLM Application for Permit to Drill (APD) Form 3160-3** for each federal well, and **Well Survey Plats**.

CBM wells are currently planned on WYW141276, WYW141277, WYW148481, and State Lease 94-00401. The federal leases contain special timing stipulations that protect big game crucial winter range (November 15 through April 30), and sage grouse and raptor nesting (February 1 through July 31).

Only access roads cross other leases in the project area. Leases WYW148482 and WYW148483 contain all three stipulations listed above. Only the big game crucial winter range and the sage grouse and raptor nesting stipulations apply to WYW127817 and WYW128663. Lease WYW128134 contains one stipulation, the sage grouse and raptor nesting timing limitation. Refer to the attached **Project Map** for all lease boundaries.

The primary targeted reservoir in the Blue Sky Project is coal seams within the Mesaverde Group. Drill site locations will be on approved 80-acre spacing. All unproductive wells will be plugged and abandoned as soon as practical after the conclusion of production testing. Productive wells may be shut-in temporarily for gas pipeline connections and/or Sundry Notices under review by the BLM for production activities and facilities.

Blue Sky Project contains a total of approximately 1,921 acres. Of that total area, an estimated 28.8 acres or 1.5 percent will be temporarily disturbed during drilling at the CBM well sites (1.25 acres per well), while 5.8 acres will be disturbed for the completed well sites (0.25 acres per well). The compressor site will disturb 1.5 acres. Each injection well will add 1.0 acre and each water transfer facility will add 1.0 acre to this figure. Refer to the attached diagrams for all pad dimensions.

Approximately 34.9 acres will be disturbed by the construction of the proposed access routes and water/gas gathering lines. This figure is based on a 20-foot wide disturbance area for roadways and a 15-foot wide disturbance area for gas and water flowlines and electric lines. A proposed sales pipeline would disturb an estimated 3.1 acres during construction. Refer to the attached **Project Map** for the location of all access routes and gatherings lines. This Master Surface Use Plan (MSUP) is intended to serve as the Right-of-Way (ROW) application for the gas lines, water lines, access roads to well locations, access road to the compressor station, and electric lines in the Project.

Gas lines will require a 30-foot right-of-way, water lines a 20-foot right-of-way, electric lines a 10-foot right-of-way, and the sales pipeline a 50-foot right-of-way.

Coal bed methane (CBM) is naturally adsorbed to the surfaces of the coal matrix and typically is not free to migrate in the subsurface until pressure is relieved. Generally speaking, hydrostatic head provides the pressure that keeps the majority of the CBM adsorbed to the coal. CBM is liberated from the coal matrix by the withdrawal of water, which in turn reduces the hydrostatic head present in the coal formation. Once a "critical" subsurface coal formation pressure is reached as water is pumped from the coal formation, CBM is free to migrate. CBM will then flow or can be pumped to the surface through the wellbore.

Pedco plans to spud the wells when the project is approved Drilling and testing activities are expected to occur over several months. Wet gas from the productive wells will be routed to a compressor station. Produced water will be gathered from the well sites and routed to two approved injection wells for disposal. The wells will be drilled through the coal seam formations. The coal seams will be exposed to the wellbore through perforation of casing.

The wells may be tested for a period of several months. Well testing involves pumping and testing water from each well and determining its capacity to produce natural gas. It is anticipated that well testing will be completed within six to twelve months. If unproductive, the drill holes will be plugged and abandoned in accordance with WOGCC rules and regulations and BLM guidance, as soon as practicable after the conclusion of well testing. If productive, natural gas will be collected and transported via buried pipelines to a compressor station, where flow will be measured.

For about half of the Project wells, this measurement location will be off-lease and will require a variance from Onshore Order #5. This request for variance, along with a description of the measurement equipment, will be submitted in a Sundry Notice if the wells are deemed producible by Pedco. **Table 1** contains measurement location information for each well.

During well testing associated with this Project, natural gas (e.g. CBM), to the extent it is produced, will be vented or flared on-location in accordance with the applicable BLM Onshore Orders and Notices To Lessees, and Wyoming Oil & Gas Conservation Commission (WOGCC) regulations, and authorized by the WOGCC and the BLM in Sundry Notices. During drilling and testing, produced water from the proposed wells will be transported to one of two approved injection wells for disposal.

Oil and gas activities in Wyoming are managed by the WOGCC. All Pedco's operations, and those of its contractors, will be conducted in accordance with all BLM and WOGCC rules and regulations.

1. EXISTING ROADS

The Project area is accessible from Baggs, Wyoming, by traveling approximately 20 miles north on SH 789 to the intersection with Carbon County Road 608 (Dad Road), or south on SH 789 from Interstate 80 (I-80) to Dad Road. Turn east onto County Road 608 and travel approximately 6 miles to the Project area.

Local roads are shown on the attached map of the Project area. Existing roads and gates will be used when practical. All existing and proposed BLM roads shall be brought up to minimum standards for a Resource Road as found in BLM Manual 9113.

The existing roads will be maintained in the same or better condition as existed prior to the start of operations. Maintenance of the roads used to access the well locations will continue until final abandonment and reclamation of the well locations occur. A regular maintenance program will include, but is not limited to, blading, ditching, culvert installation, and gravel surfacing where excessive rutting or erosion may occur. Limiting or temporarily suspending vehicle access during adverse conditions will reduce excessive rutting or other resource damage that may be caused by vehicle traffic on access roads that are wet, soft, or partially frozen. If vehicles create ruts in excess of four inches deep, the soil shall be deemed too wet to adequately support vehicles and construction or routine maintenance activities shall be temporarily suspended.

Culverts will be placed in the existing BLM roads as the need arises or as directed by BLM's Authorized Officer. Gates and cattleguards will be installed where appropriate (refer to **Project Map**).

Pedco shall share maintenance costs in dollars, equipment, materials, or labor proportionate to Pedco's use with other authorized users. Upon request, the Authorized Office shall be provided with copies of any maintenance agreement entered into.

2. ACCESS ROADS TO BE CONSTRUCTED

Well Access

Access to the individual well sites will be provided by crowned and ditched roads surfaced with an appropriate grade of gravel. Surfacing of the access roads will be completed prior to moving the drilling equipment/rig onto the pad. The access roads will follow existing terrain and the travelway will be approximately 14 feet wide.

Certain access roads, or portions thereof, may not need to be surfaced prior to moving the drilling equipment/rig onto the well pad. Factors to be considered here are soil types, grade and the weather conditions that suggest excessive rutting or erosion may occur without gravel. These access roads, or portions thereof, will be identified during the on-site inspection.

The access roads will be constructed to minimum standards for a BLM Resource Road as outlined in BLM Manual 9113. The minimum travelway width of the road will be 14 feet with turnouts. No structure will be allowed to narrow the road top. The inside slope will be 4:1. The bottom of the ditch will be a smooth V with no vertical cut in the bottom. The outside slope will be 2:1 or shallower. Turnouts will be spaced at a maximum distance of 1,000 feet and will be intervisible.

Topsoil and vegetation will be windrowed to the side of the newly constructed access roads. After the roads are crowned and ditched with a 0.03 to 0.05 ft. crown, the topsoil will be pulled back onto the cut slopes of the road right-of-way so there is no berm left at the top of the cut slope.

Drainage crossings on the access routes within the Project area would either be low water crossings or crossings using culverts. Low water crossings would be utilized in shallow channel crossings and at crossings of the main channel. Culverts would be installed on smaller, steeper channel crossings. Topsoil would be saved before channel crossing construction occurs. The additional culverts would be placed as the need arises or as directed by the BLM's Authorized Officer. The total area to be disturbed would be flagged on the ground before construction begins.

Culverts will require a minimum of 12" of fill or ½ the pipe diameter whichever is greater. The inlet and outlet will be set flush with existing ground and lined up in the center of the draw. The bottom of the pipe will be bedded on good material before backfilling. Backfill with unfrozen material and no rocks larger than two inches in diameter. Care shall be exercised to thoroughly compact the backfill under the haunches of the conduit. The backfill shall be brought up evenly in 6" layers on both sides of the conduit and thoroughly compacted. A permanent marker will be installed at both ends of the culvert to help keep traffic from running over the ends. Culverts will be installed in a manner which minimizes erosion or head-cutting. This may include rip rapping or other measures as required.

Where low water crossings are required, a 30" deep rock fill over geotextile through the drainage will be required. The rock fill will consist of 75 percent 3" to 10" diameter rough rock and 25 percent Wyoming Grading "W" Material to fill the voids. The geotextile shall be overlapping at all joints and extend beyond the rock fill. The top of the rock fill in the drainage bottom shall match the elevation of the natural drainage to allow for smooth flow with no unnatural scouring or water backup. Four inches of course gravel over the rock will be used for the surface.

The access roads will be winterized by providing a well-drained travelway to minimize erosion and other damage to the roadway or the surrounding public land.

Wing ditches will be constructed as deemed necessary to divert water from the road ditches. Wing ditches will be constructed at a slope of ½ percent to 1 percent.

A "plans-in-hand" review will be conducted with the drilling contractor prior to construction to review the access routes to the well sites. Directional markers will be set where needed and will be removed as soon as they are no longer needed.

No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of four inches deep, the soil shall be deemed too wet to adequately support construction equipment and construction/maintenance will be temporarily suspended.

Construction activity or routine maintenance will not be conducted using frozen or saturated soil material or during periods when watershed damage is likely to occur.

If snow removal outside the new and existing roadways is undertaken, equipment used for snow removal operations will be equipped with shoes to keep the blade off the ground surface. Special precautions will be taken where the surface of the ground is uneven to ensure that equipment blades no not destroy the vegetation.

Unless otherwise exempted, free and unrestricted public access will be maintained on the access road. All construction work will be accomplished as specified by the landowner and the BLM. If no specific BLM field survey requirements are provided, the design, field survey and construction requirement for BLM Resource Roads that are described in BLM Manual 9113 will be followed. Design drawings and templates will be submitted only if specifically required by the BLM.

New access routes will be sited to avoid areas susceptible to increased resource damage from the proposed action, such as areas of steep terrain or poor vegetative cover. Every effort will be made to minimize the amount of cut-and-fill construction needed to maintain safe, environmentally sound, year-round access to the well sites. The special Conditions of Approval specified for this Project by the BLM will be implemented.

Compressor Site Access

An all weather road currently exists to the compressor site and has a travel width of approximately 14 feet. All equipment and vehicles will be confined to this travel corridor and other areas specified in the Project. All disturbances related to this access road will be confined within the travel corridor.

3. LOCATION OF EXISTING WELLS

One permitted water well is located within one mile of the Project area (**Table 2 Permitted Water Wells Within One Mile of the Blue Sky Project Area**). Note that this well is not located within the inferred circle of influence (within a half-mile radius) of any individual proposed CBM well. This information, including the well site and other pertinent information, was obtained from the Wyoming State Engineer's Office (WSEO).

The enclosed **Project Map** depicts locations of disposal, drilling, producing, injection, and abandoned oil and gas wells within one mile of the Project wells. The well locations were obtained by a search of the WOGCC website.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES, IF WELLS ARE PRODUCTIVE

On Well Pad

Should drilling result in established commercial production, the wellhead will require an area of approximately 15 feet by 15 feet. The surface equipment at each CBM well will consist of the wellhead and an insulated wellhead cover. Depending on site specific conditions, the housing will be painted either “Carlsbad Canyon” tan, color 2.5Y 6/2 or Desert Brown, color 10YR 6/3 of the “Standard Environmental Colors”, unless otherwise specified by the BLM. Each productive well is expected to require the installation of an electric submersible pump below ground level that will be used to produce water necessary to lower pressure with the coal seams. A schematic of the **Typical CBM Well Site** is attached to the MSUP.

During drilling and testing of each well a temporary generator may be used at the well site. If the well were productive it would be shut-in until production facilities are constructed. After construction of the production facilities a temporary generator would be centrally located and used until permanent electrical services were installed.

In order to minimize surface disturbance, where possible, the operator shall utilize wheel trenchers or ditch witches to construct all pipeline trenches associated with this Project. Track hoes or other equipment will be used where topographic or other factors require their use.

The operator shall submit a Sundry Notice for approval prior to construction of any new surface disturbing activities on-lease that are not specifically addressed in the Master Surface Use Plan or individual APDs.

Off Well Pad/Compressor Station/Water Transfer Facilities

The compressor site facility is expected to be constructed within an approximate area of 200 feet by 200 feet (see attached **Typical Compressor Station & Meter Facility**). About one-half of the compressor site will be affected by the construction, maintenance, and operation of the facility. The compressor site facility will be of all-weather construction, having a thick layer of gravel over the pad site. Topsoil will be removed and conserved for later reclamation activities. The compressor site will consist of an insulated header building containing allocation meters for each well. The header building will also contain a dehydrator that will remove water from the wet gas stream. The water will be pumped from the header building to an approved injection well. If different production facilities are required, plans will be submitted in a Sundry Notice. In addition to the facilities on the pad, Pedco will construct drainage ditches to divert stormwater away from the compressor station pad.

Approval of this APD includes approval for Onshore Order #7 to dispose of produced water. All produced water will be injected into the Federal 1591-8I injection well or Federal 1591-9I injection well unless otherwise authorized. Any changes in the produced water disposal method or location must have written approval from BLM's authorized officer before the changes take place.

Water produced at the well sites will be gathered and transported to the injection wells for disposal. The injection wells will be drilled, cased, and cemented from TD to surface (see attached schematic of the **Injection Well**). The primary injection objectives are the Cherokee Sandstone (approximately 3,900 to 4,400 feet below the surface) and the Deep Creek Sandstone (approximately 4,200 to 4,700 feet below the surface). The Cherokee and Deep Creek are isolated above and below by competent shale barriers that will prevent the initiation and propagation of fractures through overlying strata to any fresh water zones.

The source of the water to be disposed is from the coals in the Mesaverde Group. Coalbed formation water (CBM produced water) will be collected in a buried 2-inch polyethylene flowline (pipeline) for transport to the water disposal facility location approved by the WOGCC and the BLM.

A typical water disposal facility consists of four 400 bbl water tanks, pump house, piping, and well house (see attached schematic of **Typical Water Disposal Facility**). Four transfer pumping stations, consisting of a 400 bbl water tank with associated pump and piping, will be needed (see attached **Typical Water Transfer Facility**). These transfer stations will be located near proposed disturbance areas, outside cultural sites, and, where possible, away from any known sensitive wildlife or resource areas. Final location of the water transfer facilities will be submitted in a Sundry Notice. CBM produced water and gas gathering lines will be co-located with well access roads as much as possible to reduce potential surface disturbance.

The water tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of water. The tanks will be located away from the established drainage patterns in the area and be constructed to prevent the entrance of surface water.

The water tanks will be fenced or capped to prevent livestock or wildlife entry.

The water tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons and are not to be used for disposal of water from other sources without the prior approval of the BLM. Any discharge from the tanks will be reported to the BLM as required by NTL-3A.

All storage tanks and compressor facilities, designed to contain oil, glycol, produced water, or other fluid which may constitute a hazard to public health or safety, shall be surrounded by a secondary means of containment for the entire contents of the largest single tank in use, plus 1 foot of freeboard. The containment or diversionary structure shall be impervious to any oil, glycol, produced water, or other toxic fluid for 72 hours and would be constructed so that any discharge from a primary containment system would not drain, infiltrate, or otherwise escape to groundwater, surface water, or navigable waters before cleanup is completed.

Within 90 days of initial production start-up, the operator will submit to the BLM authorized officer an analysis of the produced water.

5. LOCATION AND TYPE OF WATER SUPPLY FOR DRILLING

Water produced from nearby CBM wells may be transported to the drilling locations and used to drill these wells. Alternately, water for drilling the initial well may be purchased from a private source and transported by truck to the drilling location.

Any changes in the water source or method of transportation must have written approval from BLM's authorized officer before the changes take place.

6. CONSTRUCTION MATERIALS

Construction materials (mineral material aggregate suitable for surfacing material) will be purchased from a nearby private source or a local supplier having a permitted source of materials in the area. No construction materials will be removed from Federal and/or Indian lands without prior approval from the BLM.

7. METHODS FOR HANDLING WASTE DISPOSAL

Drill cuttings (rock fragments generated during drilling) will be produced during the drilling of the borehole. Cuttings will be buried in the reserve pit upon closure of the reserve pit.

No oil or other oil-based drilling additives, chromium/metals-based muds, or saline muds will be used during drilling of these wells. Only freshwater, biodegradable polymer soap, bentonite clay, and non-toxic additives will be used in the mud system. Details regarding the mud program are incorporated within the accompanying **Master Drilling Program**. These wells will not produce oil or saltwater typical of oil production. Furthermore, other liquid hydrocarbons are not anticipated. Should unexpected liquid petroleum hydrocarbons (e.g., crude oil or condensate) be encountered during drilling or well testing, all liquid petroleum hydrocarbons will be contained in test tanks on the well site.

A portable, self-contained chemical toilet will be provided on location during drilling and completion operations. Upon completion of operations, or as required, the contents of toilet holding tanks will be disposed of at an authorized sewage treatment and disposal facility. Disposal will be in accordance with State of Wyoming, Carbon County, and BLM requirements regarding sewage treatment and disposal. Pedco will comply with all state and local laws and regulations pertaining to disposal of human and solid wastes.

No trash will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and hauled to an authorized disposal site.

Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash barrels will be cleaned up and removed from the well location. No potentially adverse materials or substances will be left on the drill location.

Hazardous Materials Management

All Project-related activities involving hazardous materials will be conducted in a manner that minimizes potential environmental impacts. An on-site file will be maintained containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used in the course of construction, drilling, completion, production, and reclamation operations. Open pits that may contain hazardous materials will be netted.

No hazardous substance will be used in the construction or drilling operations associated with these wells. The term "hazardous materials" as used here means: 1) any substance, pollutant, or containment (regardless of quantity) listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; 2) any hazardous waste as defined in the Resource Conservation and Recovery Act (RCRA) of 1976, as amended; and 3) any nuclear or nuclear byproduct as defined by the Atomic Energy Act of 1954, as amended, 42 U.D.C. 2001 et seq. The operator will be required to provide a referenced list of hazardous

materials that could potentially be used, produced, or transported, disposed of, or stored on the well location including a discussion on the management of the hazardous materials.

Any spills of oil, gas, or any other potentially hazardous substance will be reported immediately to the BLM, landowner, local authorities, and other responsible parties and will be mitigated immediately, as appropriate, through cleanup or removal to an approved disposal site.

8. ANCILLARY FACILITIES

Self-contained travel-type trailers may be used on-site during drilling operations. No facilities other than those described in this MSUP will be constructed to support the operations associated with the wells.

9. WELL SITE LAYOUT

Schematic drawings of the **Well Site Layout** for each well are attached to this MSUP. Each schematic shows the orientation of the drill pad with respect to the topographic features (i.e., cut and fill), facilities, and access to the pad. **Location Survey Plats** and **Drill Pad Cross Sections** are also attached to this MSUP.

At each drill location, surface disturbance will be kept to a minimum. The areal extent of each drill pad is approximately 200 feet by 200 feet. Each drill pad will be leveled using cut and fill construction techniques where needed. Prior to constructing the drill pad the top 6-8 inches (more if available) of soil and associated vegetative material will be removed and stockpiled. Drainage ditches will be constructed to divert stormwater away from each pad. All surface disturbance related to drilling will be confined to each drill site.

Pedco plans to use a reserve pit at each drilling location. A reserve pit is used during drilling to circulate the drilling mud (mostly bentonite clay and freshwater) and rock cuttings out of the borehole and for holding drilling fluids. This pit will be designed and constructed according to WOGCC regulations and BLM requirements.

Each reserve pit will be approximately twenty feet deep (including two feet of freeboard), and will be forty feet wide and forty feet long (at the surface). Each pit will be excavated within the "cut area" of the drill site to minimize any potential for slope failure (geotechnical hazard). Each pit will be closely monitored to ensure no pit overflows occur. The reserve pit will be open for an estimated two to eight weeks to allow for evaporation of pit fluids. During this time the pit will be closed off from wildlife and livestock by two strands of barbed wire above a woven wire fence.

Each reserve pit shall be constructed in a manner which minimizes the accumulation of surface precipitation runoff into the pit. This can be accomplished by appropriate placement of subsoil/topsoil storage areas and/or construction of berms or ditches.

For the protection of livestock and wildlife, all pits and open cellars shall be fenced. Fencing shall be in accordance with BLM specifications. Netting will be placed over any pits that have been identified as containing oil or toxic substances as determined by visual observation or testing. The mesh diameter shall be no larger than one inch.

10. PLANS FOR RECLAMATION OF THE SURFACE

As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned and site restoration will commence. The BLM will be notified prior to commencing reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

Upon completion of drilling, the reserve pit will be dewatered and reclaimed in accordance with BLM guidance. Typically this procedure involves allowing the contents to dry naturally, and then backfilling, re-contouring and reclaiming the reserve pit area to approximate pre-drilling site conditions. After abandonment of productive wells, all wellhead equipment that is no longer needed will be removed and the well sites will be restored.

Any areas, including the drilling locations, reserve pits or access routes, that are disturbed by earthwork will be recontoured to a natural appearance as near to the original contour as possible as soon as practical after the conclusion of operations. Recontoured areas will be outsloped and waterbreaks will be constructed where needed, to avoid concentrating surface waters and producing gullies.

Any flowline trenches that may be constructed will be backfilled completely. The land surface will be left "rough" after recontouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

All topsoil conserved during earthwork will be distributed evenly and left “rough” over these recontoured areas. BLM goals for vegetative cover will guide revegetation efforts. Common goals are erosion control, palatable and nutritious forage for livestock and wildlife, and visual aesthetics.

Revegetation efforts will comply with BLM specifications on all BLM surface ownership lands. If no specifications are provided, the following specifications will be used. Seeding is expected to occur in the fall after September, prior to ground frost, or in the spring after frost has left the ground. The seed mixture, including fertilizer and mulching requirements, seeding depth, and seed drilling specifications will be developed in consultation with the BLM. Seed will be drilled on the contour using a seed drill equipped with a depth regulator in order to ensure even depths of planting. Seed will be planted between one-quarter to one-half inch deep. The anticipated seed mix and rates of application to be applied are listed below. Soil material that will be stockpiled for ten months or longer will be seeded according to BLM specifications, to the extent practicable.

Species (Pure Live Seed)	Rate of Application*
Grasses	
Slender wheatgrass (Agropyron techycaulum)	2 lbs./Acre
Thickspike wheatgrass (Agropyron dasystachyum)	4 lbs./Acre
Western wheatgrass (Agropyron smithii)	2 lbs./Acre
Indian Ricegrass (Oryzopsis hymenoides)	2 lbs./Acre
Sandberg bluegrass (Poa sandbergii)	0.5 lb./Acre
Bottlebrush squirreltail (Sitanion hystrix)	1 lb./Acre
Shrubs	
Gardner's saltbush (Atriplex gardnerii)	1 lb./Acre

*These seed rates are for drilling. If broadcast seeding, double the rates provided.

11. SURFACE OWNERSHIP

U.S. Bureau of Land Management
Rawlins Field Office
1300 North Third
Rawlins, Wyoming 82301-2407
(307) 328-4200

12. OTHER INFORMATION

Pedco is the lessee or operator for the federal CBM leases associated with this MSUP and these APDs.

The operator will have a qualified individual to serve as a compliance coordinator. This individual will be responsible for assuring that all requirements of the Surface Use Plan and appropriate Conditions of Approval are followed.

No slopes in excess of 25 percent would be affected by this proposal. No activities are planned near existing highways, railroads, pipelines, or powerlines. There are no occupied buildings or residences within one-quarter mile of the proposed drill sites.

Any road crossings of dry drainages, riparian, or other wetland areas will utilize appropriate Best Management Practices (BMP) to minimize impacts to these areas.

The Water Management Plan for this Project is enclosed with this MSUP.

The operator will be responsible for the prevention and suppression of fires on public lands caused by its employees, contractors, or subcontractors. During conditions of extreme fire danger, surface use operations may be either limited or suspended in specific areas, or additional measures may be required by the Authorized Officer.

The presence, distribution, and density of noxious weeds in the Project area will be controlled on disturbed areas within the exterior limits of the access road ROW and well pads. The well access roads and well pads will be inspected regularly to ensure that noxious weeds do not become established in newly disturbed areas. The control methods will be in accordance with guidelines established by the EPA, BLM, and state/local agencies.

The Project area encompasses public lands that consist of undulating grassland and sagebrush uplands, terraces, and riparian areas along and above creeks. The existing stream channels are intermittent or ephemeral and are partially vegetated with grasses. The nearest live water is located in Cow Creek.

Local flora consists primarily of needlegrass, western wheatgrass, prairie junegrass, blue grama grass, Indian rice grass, prickly pear cactus, and salt sage. Local fauna consists primarily of mule deer, antelope, coyotes, rabbits, raptors, and various smaller vertebrate and invertebrate species. Livestock graze on some of these lands. Oil and gas production activities have occurred in the general area.

Soils have good reclamation potential provided the hydrologic hazard of water erosion is mitigated through the use of adequate water breaks and drainage structures in recontoured areas. Rooting depths are adequate to ensure the reestablishment of vegetation at the conclusion of Project activities.

A cultural/historical resource inventory has been conducted by a qualified archaeologist permitted in Wyoming by the BLM A block survey for cultural resources was required by the BLM for this Project. The findings have been submitted under separate cover. Any additional areas of potential effect identified subsequent to the completion of the report will be inventoried as specified by the BLM, and a supplemental report will be prepared.

Landowner Notification

Landowners will be contacted prior to any activities being conducted on privately owned lands.

13. SITE-SPECIFIC CONDITIONS

ARFederal 1591-1-5:	Two 18” culverts required in access road.
ARFederal 1591-3-5:	Low water crossing required.
ARFederal 1591-5-5:	One 18” culvert and one low water crossing required in access road.
ARFederal 1591-7-5:	One 18” culvert required in access road. Wing ditches to be constructed on access road leading down the hill.
ARFederal 1591-9-5:	Four 18” culverts required to be installed in access road leading to well location.

ARFederal 1591-11-5:	One 18" culvert required to be installed in access road.
ARFederal 1591-13-5:	One 18" culvert required in access road. Use existing two-track for access and locate water, gas and electrical lines on the south side of two-track road.
ARFederal 1591-15-5:	Two 18" culverts required in access road.
ARFederal 1591-1-8:	One 24" culvert required in access road. Access should come onto the pad from the north. Bring access road north around the knob.
ARFederal 1591-3-8:	One 24" culvert and one 18" culvert required in access road.
ARFederal 1591-5-8:	Two 18" culverts required in access road. One gate or cattleguard to be installed through the fence.
ARFederal 1591-7-8:	One 18" culvert required in access road. Access should come onto the pad from the west side.
ARFederal 1591-15-8:	Topsoil should be placed on south side of pad.
ARFederal 1591-3-9:	Two 18" culverts required in access road. Install gate or cattleguard through the fence.
ARFederal 1591-5-9:	One 36" culvert required in access road. Construct wing ditches.
ARFederal 1591-13-9:	Access should come onto the pad from the south.
ARFederal 1591-15-9:	One 18" culvert required in access road.
ARState 1591-5-16:	Access should come onto the pad from the southeast. One 18" culvert required in access road.
ARState 1591-7-16:	Move topsoil to southeast corner of pad.
ARState 1591-11-16:	Access should come onto the pad from the northeast. Two 18" culverts will be required.

14. LESSEE'S REPRESENTATIVE AND CERTIFICATIONS

Representatives for Petroleum Development Corporation

Name and Title: Mr. Scott Hedlund, Compliance Technician
Address: 801 East 4th Street, Suite 23
City/State/Zip: Gillette, Wyoming 82716
Phone: (307) 682-4088

Bonding

Blanket Bond No. RL80001697; BLM Bond No. WY3280; $25,000 Surety

Certification

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill sites and access routes; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by Pedco and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C 1001 for the filing of a false statement.

I also certify that Pedco will comply with the provisions of the law or the regulations governing the Federal or Indian right of reentry to the surface under 43 CFR 3814.

I also certify that Pedco shall use its best efforts to conduct its approved operations in a manner that avoids adverse effects on any properties which are listed, or may be eligible for listing, in the National Register of Historic Places (NRHP). If historic or archaeological materials are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and contact the authorized officer (or his/her representative) at the BLM Rawlins Field Office. Any paleontological resources or fossils discovered as a result of operations associated with these wells will be brought to the attention of the authorized officer or his/her representative immediately. All activities in the vicinity of such discoveries will be suspended until notified to proceed by the authorized officer.

Pedco has applied for Permits to Appropriate Groundwater from the Wyoming State Engineers Office, concurrently with these APDs.

Name: Scott Hedlund

Title: Compliance Technician, Petroleum Development Corporation

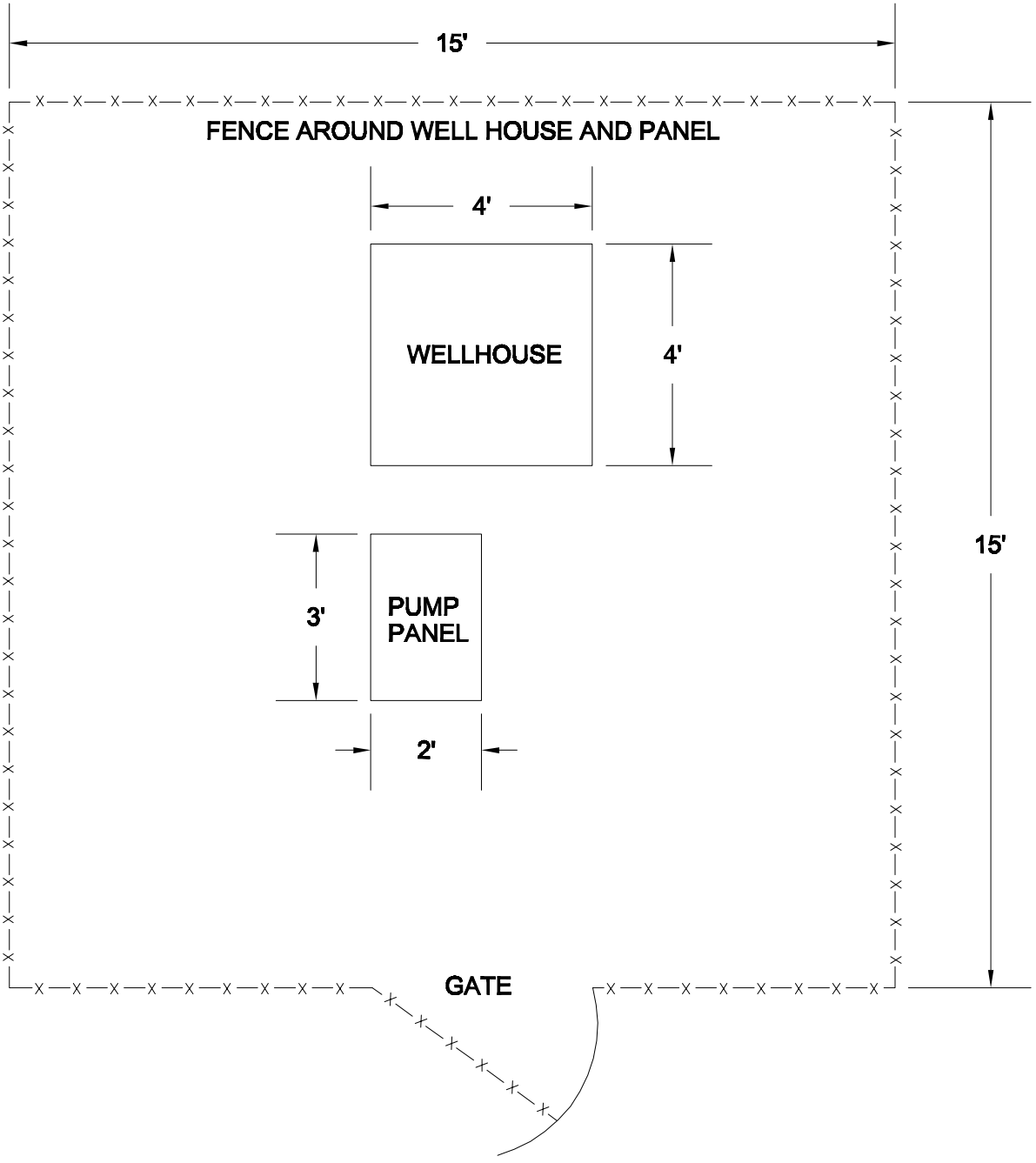
Signature: _____ Date: _____

Table 1
Blue Sky CBM Project Well Information

	Well Name, Number, and Legal Description						Lease Information	Surface Ownership Information		
No	Name	Number	Qtr/Qtr	Sec	Twn	Rng	Lease No.	Name & Address	Flow Measurement	Location Off Lease Measurement
1	ARFederal	1591-1-5	NENE	5	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
2	ARFederal	1591-3-5	NENW	5	15N	91W	WYW141277	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
3	ARFederal	151-5-5	SWNW	5	15N	91W	WYW141277	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
4	ARFederal	1591-7-5	SWNE	5	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
5	ARFederal	1591-9-5	NESE	5	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
6	ARFederal	1591-11-5	NESW	5	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
7	ARFederal	1591-13-5	SWSW	5	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
8	ARFederal	1591-15-5	SWSE	5	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
9	ARFederal	1591-1-8	NENE	8	15N	91W	WYW141277	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
10	ARFederal	1591-3-8	NENW	8	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
11	ARFederal	1591-5-8	SWNW	8	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
12	ARFederal	1591-7-8	SWNE	8	15N	91W	WYW141277	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
13	ARFederal	1591-9-8	NESE	8	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
14	ARFederal	1591-15-8	SWSE	8	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	
15	ARFederal	1591-3-9	NENW	9	15N	91W	WYW148481	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
16	ARFederal	1591-5-9	SWNW	9	15N	91W	WYW148481	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
17	ARFederal	1591-11-9	NESW	9	15N	91W	WYW141277	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
18	ARFederal	1591-13-9	SWSW	9	15N	91W	WYW148481	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
19	ARState	1591-15-9	SWSE	9	15N	91W	WYW141277	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
20	ARState	1591-3-16	NENW	16	15N	91W	94-00401	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
21	ARState	1591-5-16	SWNW	16	15N	91W	94-00401	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
22	ARState	1591-7-16	SWNE	16	15N	91W	94-00401	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
23	ARState	1591-11-16	NESW	16	15N	91W	94-00401	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
24	S&W State	1591-1-16	NENE	16	15N	91W	94-00401	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	Yes
25	Cow Creek	Comp. Station	SENW	8	15N	91W	WYW141276	BLM - 1300 North Third, Rawlins WY 82301	Cow Creek Compressor Station	

Table 2
Permitted Water Wells Within One Mile of the Blue Sky Project Area

Permit No.	Twn	Rng	Sec	Qtr/Qtr	Applicant	Facility Name	Use	YldAct	Well Depth	Stat Depth
P6142P	15	91	15	NWSW	BLM	Wild Cow Well #1	STO	20	Unkwn	Unkwn

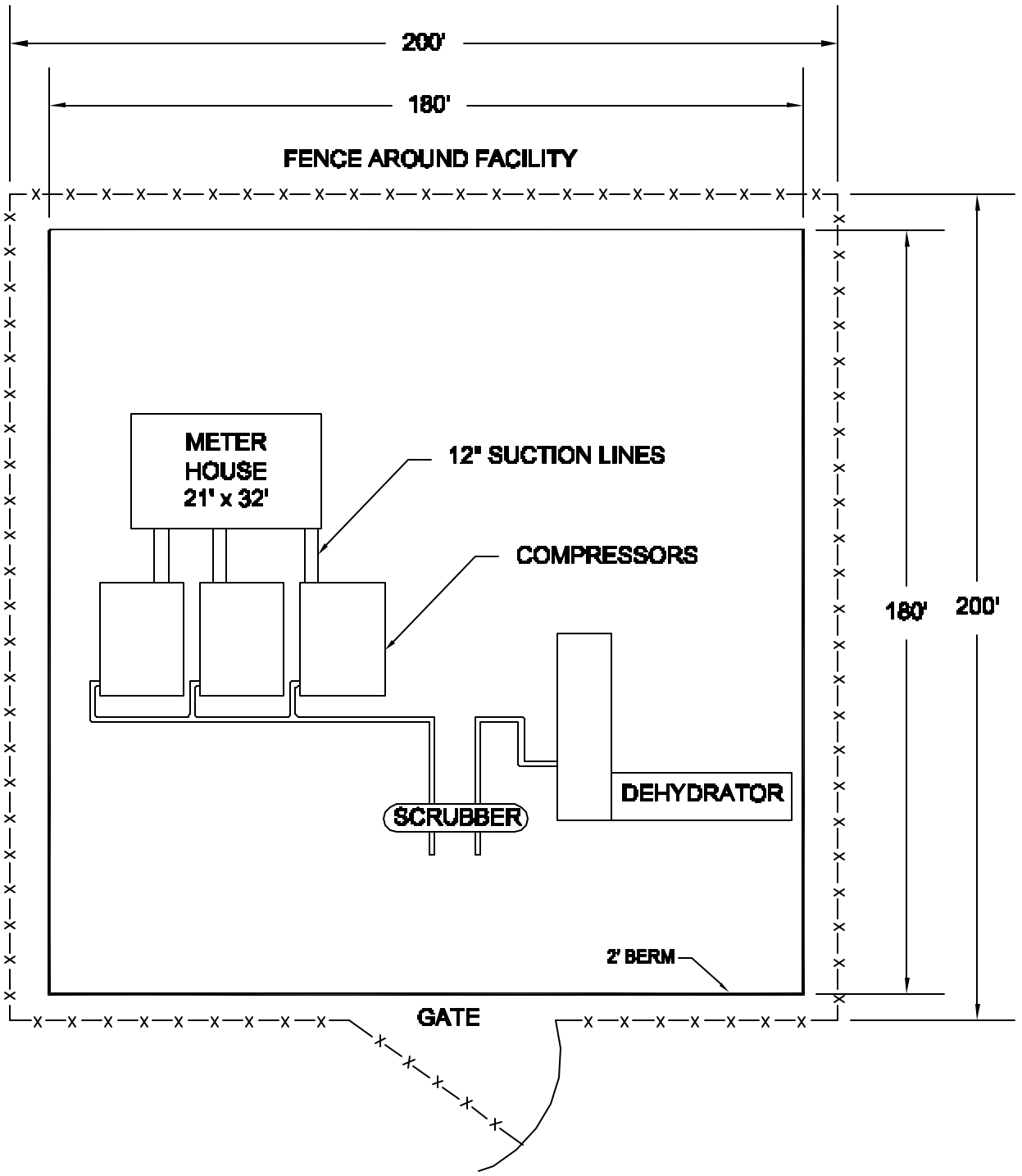


PETROLUEM DEVELOPMENT CORP.

TYPICAL CBM WELL SITE

SCALE: NTS	DATE: 05.04.01	DRAWN BY: MTM	FIGURE: 5

1172/Exhibit A

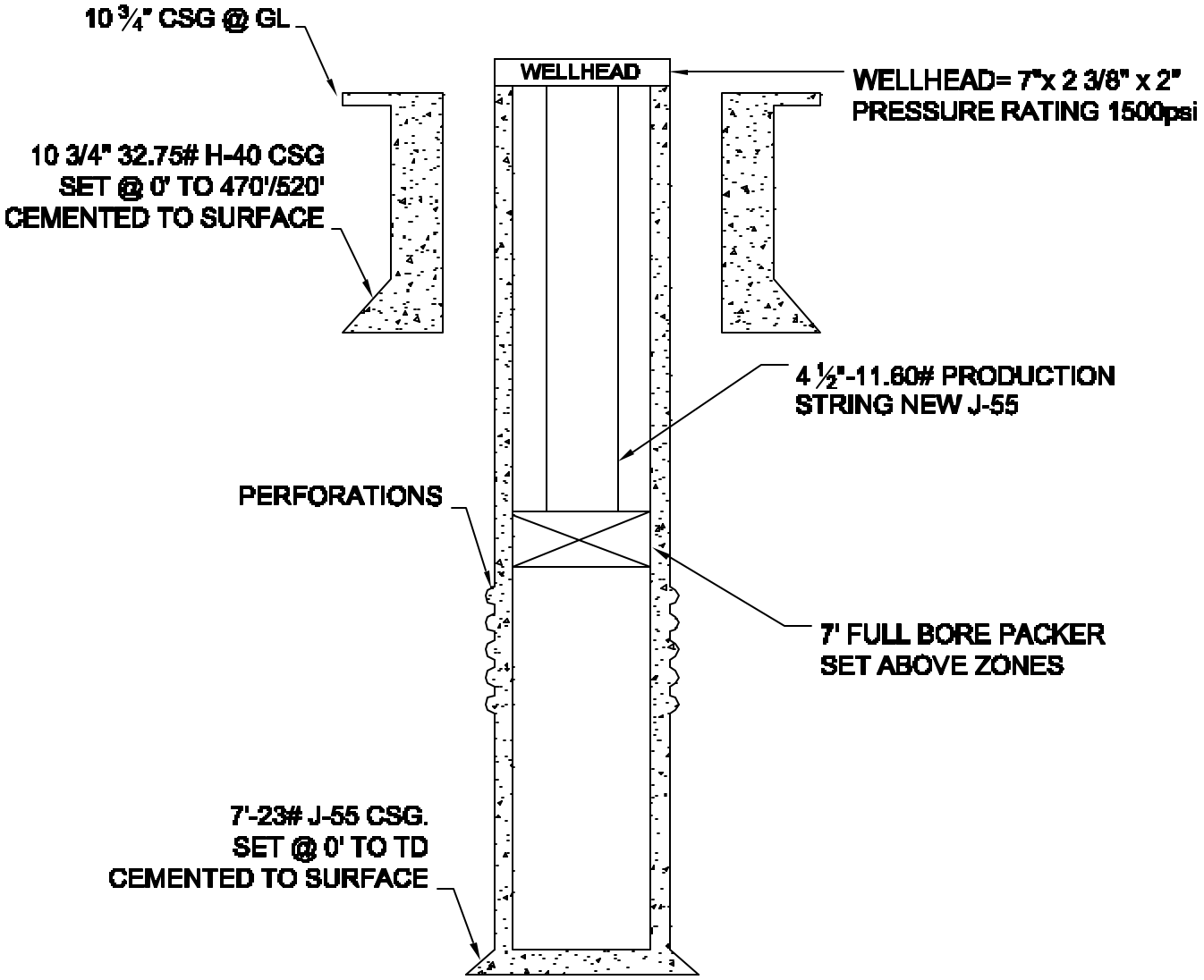


PETROLEUM DEVELOPMENT CORP.

TYPICAL COMPRESSOR STATION & METER FACILITY

SCALE: NTS	DATE: 11.04.01	DRAWN BY: RLZ	FIGURE: 10

1172/Exhibit A

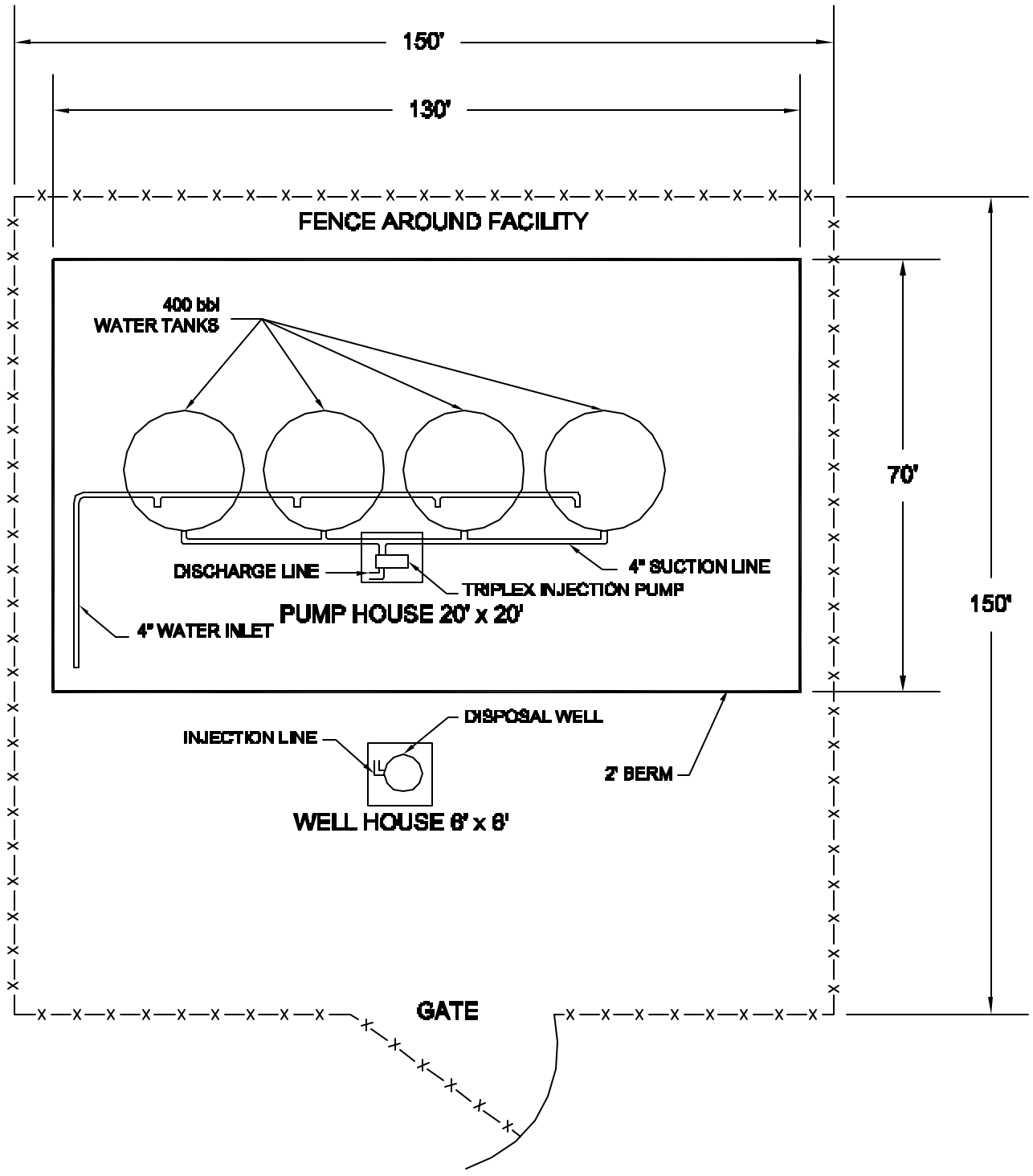


PETROLEUM DEVELOPMENT CORP.

TYPICAL INJECTION WELL

SCALE: NTS	DATE: 01.10.02	DRAWN BY: RLZ	FIGURE: 7

1172/Exhibit A

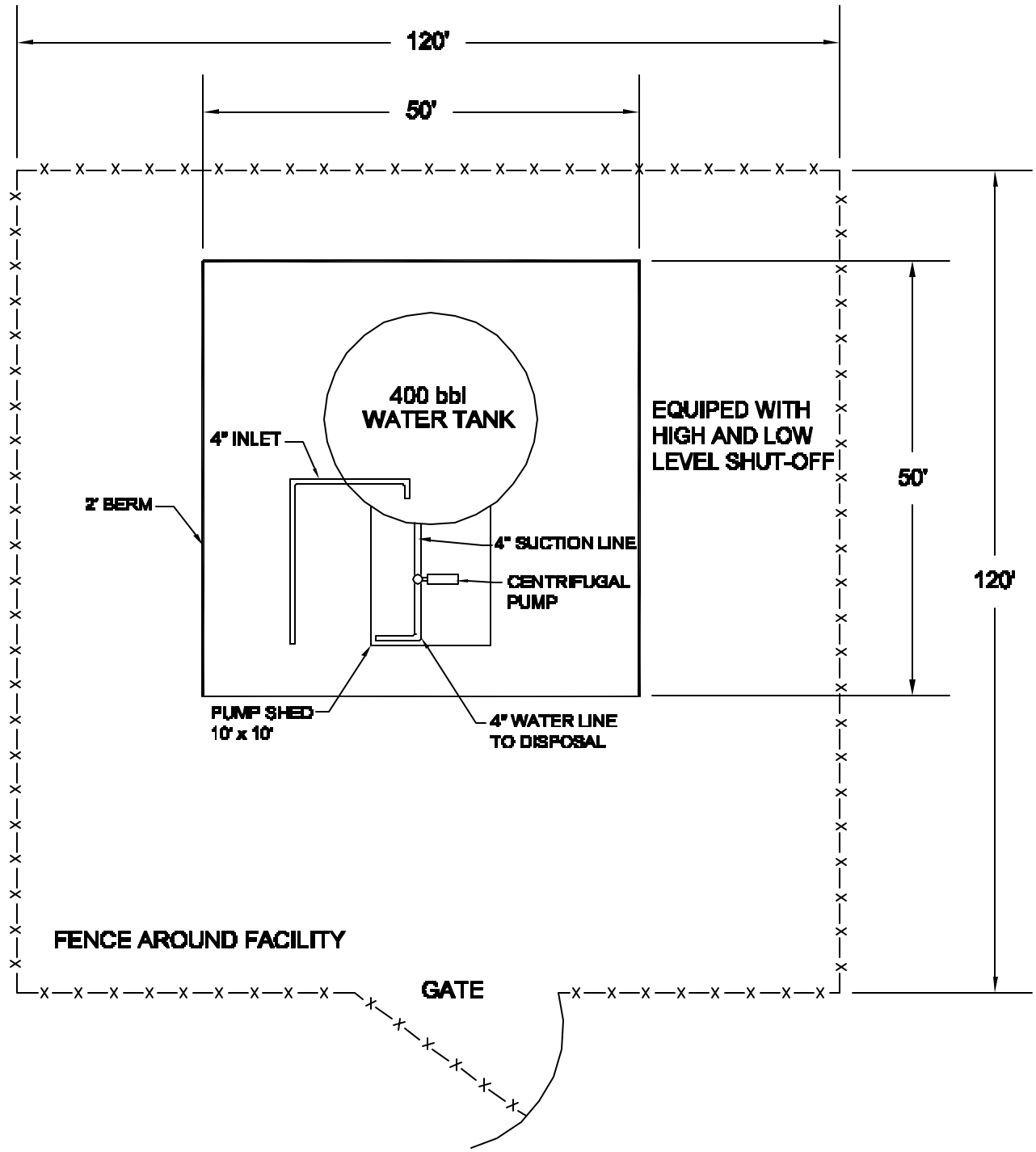


PETROLEUM DEVELOPMENT CORP.

TYPICAL WATER DISPOSAL FACILITY

SCALE: NTS	DATE: 11.02.01	DRAWN BY: RLZ	FIGURE: 8

1172/Exhibit A

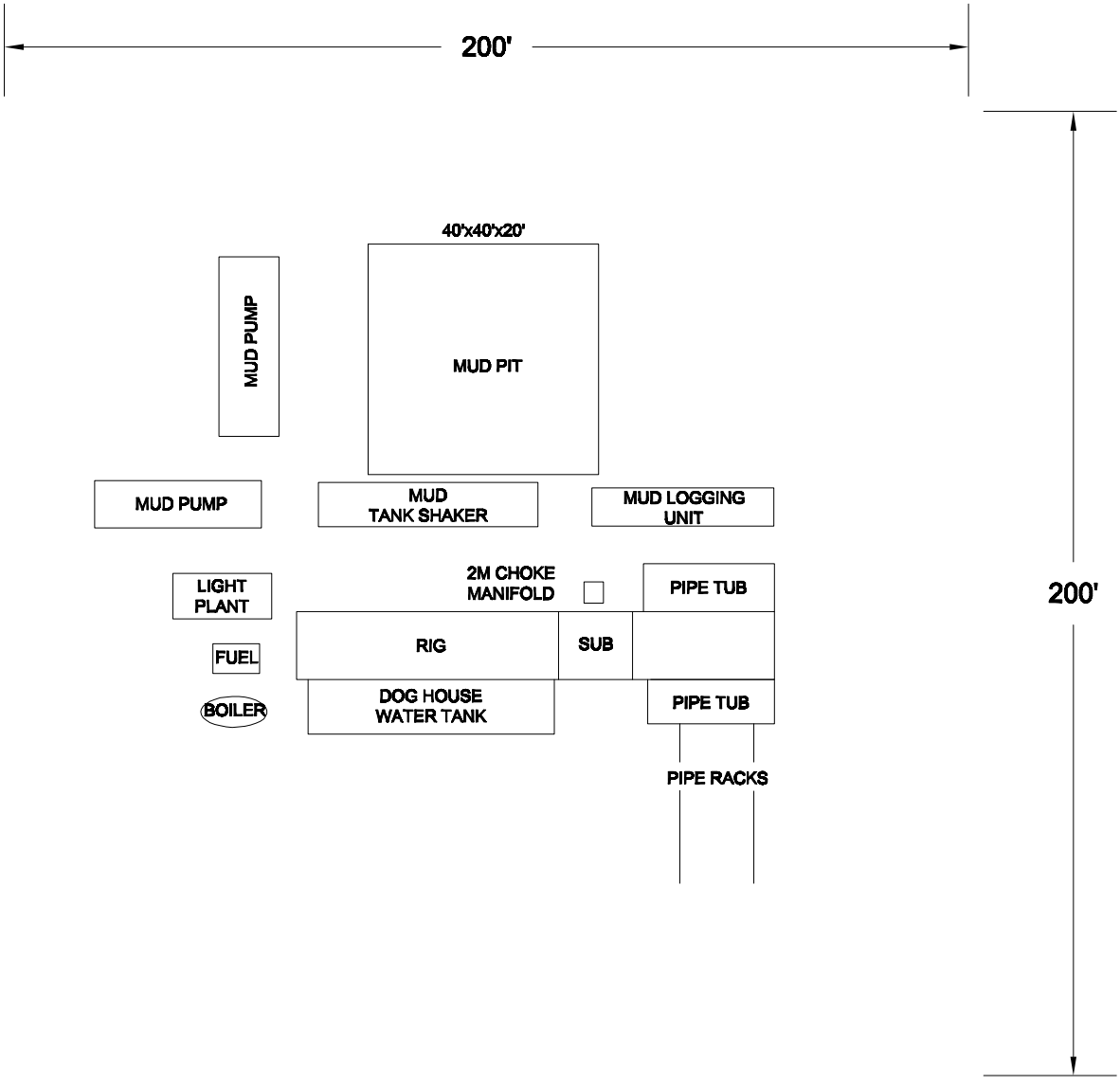


PETROLEUM DEVELOPMENT CORP.

TYPICAL WATER TRANSFER FACILITY

SCALE: NTS	DATE: 11.04.01	DRAWN BY: RLZ	FIGURE: 9

1172/Exhibit A



PETROLUEM DEVELOPMENT CORP.

TYPICAL DRILLSITE LAYOUT

SCALE: NTS	DATE: 5.18.01	DRAWN BY: ML	FIGURE: -

1172/Exhibit A