MASTER SURFACE USE AND WATER MANAGEMENT PLAN (MSUP/WMP)

BROWN COW II POD

OPERATORS:
Warren E & P, Inc.
Anadarko E & P Company

Surface Use Program and Plan of Development for the subject wells listed below

Lease Number	Well Name	Location
WYW-029262	AR Federal 1491 11-2	NE SW 2-T14N-R91W
	AR Federal 1491 1-11	NE NE 11-T14N-R91W
	AR Federal 1491 7-11	SW NE 11-T14N-R91W
	AR Federal 1491 9-11	NE SE 11-T14N-R91W
WYW-0208269	AR Federal 1491 15-2	SW SE 2-T14N-R91W
WYW-131274	AR Federal 1491 3-11	NE NW 11-T14N-R91W
	AR Federal 1491 11-11	NE SW 11-T14N-R91W
	AR Federal 1491 15-11	SW SE 11-T14N-R91W
WYW-136207	AR Federal 1491 1-14	NE NE 14-T14N-R91W
	AR Federal 1491 3-14	NE NW 14-T14N-R91W
	AR Federal 1491 7-14	SW NE 14-T14N-R91W
	AR Federal 1491 9-14	NE SE 14-T14N-R91W

The MSUP contains surface operating procedures for the Operators' Federal Applications for Permits to Drill (APDs), as required under Onshore Order No. 1. Information on each Federal well is contained in the BLM APD Form 3160-3.

This MSUP is intended to serve as the application for the gas and water gathering lines, access roads to well locations, and electric distribution lines in the POD. Roads, gathering lines and electrical distribution lines will occupy an 80-foot wide common corridor. Roads will require a 50-foot wide disturbance. Gas-gathering and water-gathering lines will require a 20-foot wide disturbance and electric distribution lines a 10-foot wide disturbance. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining sound construction and installation practices. In no case will the maximum disturbance width of the access road and parallel utility corridors exceed 80 feet. Where possible, roadways will be used as working space for installation of gathering lines. Please refer to the schematic for the layout of pipelines and roads.

An allocation meter will be used to measure raw produced gas volumes for each well in the POD. A sales meter will be located downstream of the final compressor and dehydration unit, at the compressor station, and will be used to measure dry salable-quality gas. A request for variance from Onshore Order No. 5, if needed, along with a description of the measurement equipment, will be submitted in a Sundry Notice if the wells are deemed producible.

During well testing associated with this project, natural gas, to the extent it is produced, will be vented or flared on-location in accordance with the applicable BLM Onshore Orders, Notices To Lessees, and WOGCC regulations, and authorized by the WOGCC and the BLM in Sundry Notices. During testing, produced water from the proposed wells will be transported to an approved injection well for disposal.

1. EXISTING ROADS AND TRAVELWAYS

The project area is accessible from Baggs, Wyoming, by traveling approximately 7.7 miles north on Highway 789. Turn right onto BLM Road 3309 for a distance of approximately 5.5 miles until entering the Browning Field operated by Anadarko E & P Company LP.

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 cleanout, and gravel surfacing where excessive rutting or erosion may occur. The existing roads will be maintained in a safe and usable condition.

Culverts (a minimum of 18 inches in diameter) will be placed in the existing BLM roads as the need arises or as directed by BLM's Authorized Officer. (Refer to individual well area maps).

2. PROPOSED ACCESS ROUTES

Well Access (see Exhibit 1)

Well Name	Location	Approximate Access Road Length	Approximate Acreage of Disturbance
AR Federal 1491 11-2	NE SW 2-T14N-R91W	1,221 feet	1.4 acres
AR Federal 1491 1-11	NE NE 11-T14N-R91W	Existing Road	Existing road
AR Federal 1491 7-11	SW NE 11-T14N-R91W	4,089 feet	4.7 acres
AR Federal 1491 9-11	NE SE 11-T14N-R91W	1,320 feet	1.5 acres
AR Federal 1491 15-2	SW SE 2-T14N-R91W	2,319 feet	2.7 acres
AR Federal 1491 3-11	NE NW 11-T14N-R91W	2,451 feet	2.8 acres
AR Federal 1491 11-11	NE SW 11-T14N-R91W	162 feet	0.2 acres
AR Federal 1491 15-11	SW SE 11-T14N-R91W	3,418 feet	3.9 acres
AR Federal 1491 1-14	NE NE 14-T14N-R91W	300 feet	0.3 acres
AR Federal 1491 3-14	NE NW 14-T14N-R91W	3,222 feet	3.7 acres
AR Federal 1491 7-14	SW NE 14-T14N-R91W	1,563 feet	1.8 acres
AR Federal 1491 9-14	NE SE 14-T14N-R91W	1,424 feet	1.6 acres

New access roads have been sited to avoid areas susceptible to increased resource damage from the proposed project, such as areas of steep terrain or poor vegetative cover.

At the time of construction, it shall be ensured that centerline stakes are located intervisibly (at intervals no more than 100 feet distant) along the alignment of the proposed access road.

Newly constructed access roads will be crowned, ditched, and graveled. All equipment and vehicles will be confined to identified travel corridors and other areas specified in this MSUP. The access roads will be surfaced with an appropriate grade of aggregate or gravel to a depth of four inches before the drilling equipment or rig is moved onto the pad.

Unless otherwise exempted, free and unrestricted public access will be maintained on the access road. Access roads will be maintained in a safe and usable condition. A regular maintenance program will include, but is not limited to, blading, ditching, installing or cleaning culverts, and surfacing.

All existing and proposed 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 and outside ditch slope will be 4:1. Turnouts will be spaced at a maximum distance of 1,000 feet and will be intervisible.

Wing ditches will be constructed as deemed necessary to divert water from the road ditches as outlined in BLM Manual 9113 and the 10 erosion index shall be used. Wing ditches will be constructed at a slope of 0.5 percent to 1 percent.

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

Drainage crossings on the access routes will utilize culverts. Culverts will be covered with a minimum of 12 inches of fill or one-half the diameter of the pipe, whichever is greater. The inlet and outlet will be set flush with existing ground and lined up in the center of the draw. Before the area is backfilled, the bottom of the pipe will be bedded on stable ground that does not contain expansive or clay soils, protruding rocks that would damage the pipe or unevenly sized material that would not form a good seat for the pipe. The site will be backfilled with unfrozen material and rocks no larger than two inches in diameter. Care will be exercised to thoroughly compact the backfill under the haunches of the conduit. The backfill will be brought up evenly in 6-inch 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 that minimizes erosion or head-cutting and may include rip rapping or other measures as required. Additional culverts will be placed in the access road as the need arises.

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. 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.

No construction or routine maintenance activities will 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 will be deemed too wet to adequately support construction equipment, and construction and maintenance will be temporarily suspended.

The written approval of the Authorized Officer will be obtained before snow removal is undertaken outside the new and existing roadways. If approval is given, equipment used for snow removal operations outside the road ditches 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 do not destroy the vegetation.

If drilling is productive, all access roads to the well site would remain in place for well servicing (such as maintenance and improvements). Any portions of the ROW for the access road that are no longer needed would be reclaimed. The outside ditch cuts would be seeded and reclaimed.

3. LOCATION OF EXISTING WELLS

The enclosed **Exhibit 1** shows locations of disposal, drilling, producing, injection, and abandoned oil and gas wells within one mile of the Brown Cow II POD wells.

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

On Well Pad

Wellhead facilities would be installed if the wells are productive. Natural gas and produced water would be collected and transported from the wellhead via buried pipelines.

The long-term surface disturbance at the location of each productive well would encompass approximately 0.25 acre, including cut and fill slopes. Typically, only the production facilities at the well site would be fenced or otherwise removed from existing uses. A loop road or a small, graveled pad area would provide a safe turnaround area for vehicles.

The wellhead facilities would be contained within an area covering approximately 15 feet by 15 feet. The surface equipment at each well will consist of the wellhead, a pump panel, and an insulated wellhead cover. Additionally, a vertical separator at some well sites would separate gas from the water stream. Each productive well is expected to require installation of a progressing cavity pump below ground level, which will be used to produce water necessary to lower pressure within the coal seams.

All production facilities installed on location that have the potential to leak or spill oil, glycol, produced water, or other fluid, which may constitute a hazard to public health or safety, shall be placed within an appropriate containment or diversionary structure sufficient to hold at least 110% of the largest container within the facility. The structure shall be impervious to oil, glycol, produced water, or other hazardous fluid for at least 72 hours. It shall be installed so that any spill or leakage would not drain infiltrate, or otherwise escape to ground water, surface water, or navigable waters before cleanup is completed.

The Operators will paint structures at wells and central facilities with flat colors that blend with the adjacent undisturbed terrain. The paint used will be a color specified by the BLM. This

measure does not apply to structures that require safety coloration in accordance with the requirements of the Occupational Safety and Health administration (OSHA). Due to the presence of two predominant background colorations in the project area, one of two site-specific colors to be specified by the BLM will be used in painting above-ground facilities. The BLM will specify which of the two colors applies to each APD authorization or subsequent Sundry Notice approval.

Off Well Pad

Pipelines (Gathering Lines and Delivery Pipeline)/Compressor Station/ Water Handling and Disposal Facilities/Injection Wells/Tanks (see Exhibit 1)

Electricity would be used to power pumps during well development and to initiate and maintain production. A centrally located natural gas powered electrical generator located at the compressor station will be utilized to provide electricity to the wells. The electrical distribution system will consist of utility lines buried in the road/pipeline corridor. These lines would be installed in trenches approximately three feet deep.

Pipelines

The corridors for the gathering systems will parallel access roads. ROWs located in the same corridor will overlap each other to the maximum extent possible, while maintaining sound construction and installation practices. The working space for installation of facilities will be along the road.

Clearing along the pipeline route shall be limited to removal of above ground vegetative parts within the area comprising the ditch and backfill.

Trenches will be excavated to install the gas and water flowlines and electrical distribution lines. (Refer to the attached schematic for layout of lines) Trenches excavated for well gathering lines and electrical lines (which would require ROWs of 20 feet in width for gas lines and water lines, and 10 feet in width for electrical lines) would be reclaimed as soon as practical after trenching and backfilling are completed. About 4.5 miles of gathering lines would be constructed within the POD.

A gas-gathering pipeline system (low pressure) would be constructed from the wellheads to the compressor station. This system would use high-density polyethylene (HDPE) pipe, starting with 4-inch diameter pipe at the wellhead and graduating up to 20-inch diameter pipe at the inlet to the compressor. Although there is no plan to use additional area for installation of the larger size pipe, should additional pipeline corridor right-of-way width be required on Federal land, application will be made to the BLM.

A produced water-gathering pipeline system (low pressure) would be constructed from the wellheads to the centralized facilities for injection. This network of water lines would use 4-inch through 20-inch diameter pipe made of HDPE. Although there is no plan to use additional area for installation of the larger size pipe, should additional pipeline corridor right-of-way width be required on Federal land, application will be made to the BLM.

Pipeline corridors would be reclaimed as soon as practical after construction of the pipeline is complete, but within no longer than one year from the date construction is completed.

Where it is necessary to remove above ground vegetation, the top 6-inches of top soil material will be stripped, windrowed, and stockpiled to the side and segregated if the pipeline to be installed is 8-inches or greater, outside diameter. Top soil material will not be mixed or covered with subsurface material. After construction cut and fill slopes will be waterbarred or regraded to conform to the adjacent terrain as specified by BLM.

A maximum of 2,000 feet unattended or unprotected open trench shall be allowed at any given time. Construction trenches and other openings left overnight shall be covered or sloped for easy egress. Covers shall be secured in place and strong enough to prevent livestock or wildlife from falling through. During the period when a trench is open, warning devices, such as signs or warning lights shall be posted to warn the public of the hazard.

Drainage crossings shall be constructed to prevent any blocking, diversion, or restriction of the existing channel. Material removed shall be stockpiled for use in reclamation of the crossing. Drainage crossings shall be left in a geometry similar to what existed prior to disturbance, compacted, and capable of passing water without accelerated erosion.

In order to minimize surface disturbance, the operator will use wheel trenchers (ditchers) or ditch witches, where possible, 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. Trenches shall be compacted during backfilling.

Construction-related traffic shall be restricted to approved routes. Cross-country vehicle travel shall not be allowed.

No hydrostatic testing water shall be discharged to the surface.

Water Handling and Disposal Facilities and Injection Wells

Within 90 days of initial production start-up, the operator will submit an analysis of the produced water to the BLM's Authorized Officer. Approval of this POD includes approval by Onshore Order No. 7 to dispose of produced water. Produced water will be injected into water disposal wells authorized by the State of Wyoming, and by the BLM, if necessary. Any changes in the produced water disposal method or location must receive written approval from BLM's Authorized Officer before the changes take place.

Produced water from individual wells would be gathered and routed to central storage facilities located next to the injection wells. Produced water-gathering pipelines would be constructed along the well access road, from the wellhead to the injection facilities.

Five deep injection wells would be approved by the BLM, WOGCC, and WDEQ (locations are shown in Figure-2-1). The approximate maximum injection capacity of the five injection wells would be 22,500 barrels per day (bbls/day).

Deep Injection Wells		
WYW-0208269	API 49-007-20978	SE SE 2-T14N-R91W
WYW-0208269	API 49-007-20750	SW NW 12-T14N-R91W
WYW-0208269	API 49-007-20980	W NE 12-T14N-R91W
WYW-0208269	API 49-007-21052	NE NE 2-T14N-R91W
ST 93-00078	API 49-007-21513	SW SE 36-T15N-R91W

5. LOCATION AND TYPE OF WATER SUPPLY FOR DRILLING

Water to drill the first well will be trucked from the Brown Cow POD water facilities located in Section 1 T14N R91W (Browning 2-1). Other possible sources of water are as follows:

- P154548W Brown Cow Fed 43-2-1491 Section 2 T14N R91W
- P154538W Brown Cow Fed 14-1-1491 Section 1 T14N R91W

Water for use in drilling the subsequent wells will be obtained from existing wells completed in the coal seams of the Mesaverde Group. Approximately 700 barrels of water (almost 30,000 gallons) will be needed to drill each well. The actual volume of water used in drilling operations will depend on the depth of the well and any losses that might occur during drilling.

Any changes in the water source or method of transportation must receive 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 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 fresh water, biodegradable polymer soap, bentonite clay, and non-toxic additives will be used in the mud system. Should unexpected liquid petroleum hydrocarbons (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. The Operators 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 locations.

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, or substances that are used in the course of construction, drilling, completion, production, and reclamation operations. Netting will be placed over any pits that may contain hazardous substances (Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] Section 101(14)), as determined by visual observation or testing. The mesh diameter shall be no larger than 1 inch.

No hazardous substance, as defined by CERCLA, will be used in the construction or drilling operations associated with these wells. No Resource Conservation and Recovery Act (RCRA) hazardous wastes will be generated by well-drilling operations. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment (regardless of quantity) listed as hazardous under 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 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 be used, produced, transported, disposed of, or stored on the well location including a discussion on the management of the hazardous materials. Releases of hazardous materials will be reported to the BLM within 24 hours of discovery. If a release involves petroleum hydrocarbons or produced water, the Operators will comply with the notification requirements of NTL-3A.

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

Several self-contained travel-type trailers may be used onsite during drilling operations. No facilities other than those described in this MSUP will be constructed to support the operations associated with the wells. The trailers will be located entirely on previously-disturbed areas constructed for the drilling of the POD wells.

9. WELL SITE LAYOUT

Information on each federal well is contained in the BLM APD Form 3160-3 and the pad cut and fill diagram (**Exhibit 2**) on file with BLM. The cross section shows the orientation of the drill pad with respect to the topographic features (cut and fill), facilities, and access to the pad.

At each drill location, surface disturbance will be kept to a minimum. The areal extent of each drill pad is approximately 300 feet by 200 feet, not including cut and fill slopes. Cut and fill slopes are displayed for each well location on **Exhibit 2**. Deviation from the dimensions, cut and fill slopes, or orientation of the well pads will require prior written approval from the BLM. Each drill pad will be leveled using cut and fill construction techniques. Prior to constructing the drill pad the top 6 inches of soil and associated vegetative material will be removed and stockpiled. A water diversion ditch may be constructed around the up slope side of the well pad to divert storm water away from each pad, if necessary. No spoil material shall be pushed into drainages.

Each reserve pit will be approximately 10 feet deep (including two feet of freeboard), and will be 35 feet wide and 100 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. Each pit will be designed to prevent collection of surface runoff and will be closely monitored to ensure no pit overflows occur. The reserve pit will be open for an estimated 8 to 12 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 32-inch woven wire fence. The reserve pit will be fenced on three sides during drilling, and the working side will be fenced immediately after the drilling rig is moved. Fencing will meet the following specifications.

The woven wire shall be no more than four inches above the ground. The first strand of barbed wire shall be about three inches above the woven wire. Total height of the fence shall be at least 42 inches.

Corner posts shall be cemented and/or braced in such a manner to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. The maximum distance between any two posts shall be no greater than sixteen feet. All wire shall be stretched using a stretching devise before it is attached to the corner posts.

Netting will be placed over any pits that have been identified as containing oil, as determined by visual observation or testing. The mesh diameter will be no larger than 1 inch. For the protection of livestock and wildlife, all pits and open cellars will be fenced. Fencing shall be in accordance with BLM specifications.

10. PROGRAMS FOR RECLAMATION OF THE SURFACE

Interim reclamation including pit evaporation, fluid removal, pit solidification, recontouring, ripping, spreading top soil, seeding, and/or weed control will be performed as soon as possible after drilling operations are completed, but within no more than one year from the date completion operation have been completed.

As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned and site and road reclamation will commence. In no case will reclamation at unproductive locations be initiated later than two years from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested. The primary purpose of this inspection shall be to review the existing, or agree upon a revised final reclamation and abandonment plan. The BLM will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation. Upon successfully completing reclamation of a plugged & abandoned location, a Final Abandonment Notice (FAN) will be submitted to the BLM.

After abandonment of nonproductive 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. Any flowline trenches that may be constructed will be backfilled completely.

Pits containing drilling mud and fluids shall be allowed to dry. Fluids remaining after two years shall be moved to an approved site. Other options, if approved by the Authorized Officer, may include fly-ash solidification or sprinkler evaporation over the pit containing the fluid.

The reserve pit, upon being allowed to properly dry, shall be backfilled and compacted with a minimum cover of five feet of soil, void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden and saturated, partially or completely frozen shall not be used for backfill or cover. The pit area shall be mounded to allow for settling and to promote positive surface drainage away from the pit.

Should the well become productive, all disturbed areas not needed for production operations shall be re-contoured and re-vegetated as outlined in the MSUP, under an interim or temporary reclamation plan. This shall be performed as soon as possible after placing the well into production, but no longer than within two years of completion of drilling. If not previously reclaimed, the access road and pipeline right-of-way may be included in this reclamation. Re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site, and reestablishing the natural contours where desirable and practical. Fill and stockpiled soil no longer needed or necessary to the operation shall be spread on the cut slopes and covered with stockpiled topsoil. Final contouring shall blend with and follow as closely as possible the natural terrain and contours of the original site and surrounding areas. The production pad and facilities shall occupy as small an area as possible, but not larger than 0.32-acre unless otherwise approved by the BLM Authorized Officer.

Should the well be put into production or upon final abandonment of the well, fencing of the reseeded well site may be erected to exclude grazing and to help vegetation success.

After recontouring the site to the original contour that existed prior to pad construction, final grading and replacement of topsoil over the entire surface of the well site and access road will be conducted. The area will be ripped to a depth of 18-24 inches on 18-24-inch centers.

The surface soil material shall be pitted with small depressions to form longitudinal depressions 12-18 inches deep. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

The travelway of access roads designated by the BLM to be rehabilitated will be ripped to a depth of 18 inches, recontoured to approximate the original contour of the ground and seeded in accordance with the reclamation portions of the MSUP.

Water control structures will be designed and constructed at drainage crossings to prevent excessive erosion within the drainage.

Waterbars will be constructed on all disturbed areas to: (1) simulate the imaginary contour lines of the slope with a grade of 1-2 percent; (2) drain away from the disturbed areas; and (3) begin and end in undisturbed vegetation or soil.

Recontoured areas will be graded to be outsloped, and waterbreaks will be constructed where needed to avoid concentrating surface waters and producing gullies. 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 redistributed evenly and left "rough" over these recontoured areas. BLM goals for vegetative cover will guide revegetation efforts. Common goals are erosion control, weed control, palatable and nutritious forage for livestock and wildlife, and visual aesthetics.

Seeding will occur in the fall after September, prior to ground frost, or in the spring after frost has left the ground. Seed mixes appropriate to the native plant community shall be used for revegetation. The specific see mix for each well location and road segment will be provided by the BLM in each APD authorization or subsequent sundry notice, and shall be appropriately followed in implementing interim and final reclamation for this project.

Interim reclamation revegetation success criteria include the attainment of 50% of pre-disturbance vegetation cover in three years and 80% of pre-disturbance vegetation cover in five years. Additionally, the reclaimed area should be comprised of at least 20% of the species contained in the seed mix and/or present on adjacent, undisturbed area. No single species should account for more than 50% of the total vegetative cover unless similar to adjacent, undisturbed areas. Noxious weeds will be controlled.

The operator will erect snow fencing or other suitable structures for the capture of snow on specified locations and for the minimization of wind scouring on erosive sites.

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

The Operators are the lessee or operator for the Federal oil and gas leases associated with this MSUP and these APDs.

The Operator shall maintain a hazardous materials, oil and gas release contingency response plan that applies to the project, and shall provide the BLM with a copy of the current plan and any subsequent changes made to the plan.

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 use appropriate Best Management Practices (BMP) to minimize impacts to these areas.

Dust abatement using produced water will comply with all applicable WOGCC, WDEQ or BLM requirements. Only water suitable for livestock use would be used for dust abatement. Only disturbed areas will be sprayed. Spraying will be done to reduce runoff and channeled flow.

The presence, distribution, and density of noxious weeds in the project area will be monitored by the Operators. The well access roads and well pads will be inspected regularly to ensure that noxious weeds do not become established in newly disturbed areas. Control methods will be based on available technology, taking into consideration the weed species present. Methods of noxious weed control may include revegetation of disturbed areas to reduce the potential for and success of weed establishment, mowing, hand-pulling, or application of appropriate herbicides. The control methods shall be in accordance with guidelines established by the Environmental Protection Agency (EPA), BLM, and state and local authorities or agencies.

Prior to the use of any herbicides or pesticides on Federal lands, the Operators will obtain written approval from the BLM Authorized Officer. The Operators will also prepare and submit a proposal and plan to the BLM Authorized Officer for an annual weed control program that satisfies the requirements established in the MSUP and any additional Conditions of Approval.

A cultural/historical resource inventory has been conducted on the public lands by a qualified archaeologist permitted in Wyoming by the BLM. The findings have been submitted under separate cover. Any additional areas of potential effect identified subsequent to the completion of these reports will be inventoried as specified by the BLM, and a supplemental report will be prepared.

During the construction phase of the well pad and access road, the operator shall have onsite, a qualified inspector other than the dirt contractor to serve as Compliance Coordinator. This individual will be responsible for assuring that all requirements of the MSUP and appropriate Conditions of Approval are enforced.

Approved facilities no longer included within the lease-unit boundaries due to a change in the lease or unit boundary will be authorized with a right-of-way.

The Operators will be responsible for the prevention and suppression of fires or 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.

13. WILDLIFE

1. During reclamation, the Companies will establish a variety of forage species that will return the land to a condition that approximates its state before disturbance. In the short term, grasses and forbs will be established and in the long term, shrub species will establish themselves naturally.
2. The Companies will prohibit unnecessary off-site activities of operational personnel near the drill sites. The Companies also will inform all project employees of applicable wildlife laws and penalties associated with unlawful take and harassment.
3. Construction will not be allowed during critical nesting season (February 1-July 31) near active raptor nests. Seasonal timing restrictions within a "buffer zone" around nests to avoid disturbance to nesting raptors will reduce impact from construction activities. Exception requests may be granted if nests are found to be inactive or modified if there is visual screening of the nest that is determined by the BLM to be sufficient to minimize impacts.
4. Surface disturbing activities will not be allowed within 0.25 mile of identified active or occupied greater sage grouse leks.
5. The Companies will protect greater sage grouse nesting habitat during the breeding, egg-laying, incubation and early brood-rearing period (March 1 through June 30) by restricting construction within a two-mile radius of active leks for greater sage grouse. Exceptions may be granted if the activity will not interfere with greater sage grouse nesting activity.
6. Construction activities in potential mountain plover nesting habitat during the nesting period (April 10-July 10) will not be allowed unless an exception is granted. An exception may be granted if a survey for mountain plovers is conducted, within areas of potential habitat, prior to any surface disturbance in those areas, according to current mountain plover survey protocol and no plovers are found (USDI-FWS 2002).
7. All pits and open cellars must be fenced for the protection of wildlife and livestock. Fencing must be in accordance with BLM specifications. Netting must be placed over all production pits to eliminate any hazard to migratory birds or other wildlife. Netting is also required over reserve pits that have been identified as containing oil or hazardous substances (Comprehensive Environmental Response, Compensation, and Liability Act [CERCLA] Section 101 (14)), as determined by visual observation or testing. The mesh diameter will be no larger than one inch.

14. LESSEE'S REPRESENTATIVE AND CERTIFICATIONS

Representatives for Anadarko E & P Company

Name: Cathy Flansburg
Title: Senior Environmental and Regulatory Analyst
Address: 2515 Foothill Boulevard, Suite 300
City/State/Zip: Rock Springs, WY 82901
Phone: (307) 352-3328

Name: Gary Sundberg
Title: Permit Agent for Anadarko E&P Co., LP
Address: P.O. Box 94
City/State/Zip: Rawlins, Wyoming 82301
Phone: (307) 321-2445

Bonding

BLM Nationwide Bond, WYB-000269

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 AEPC 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 AEPC 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 AEPC has reached or will reach an agreement with the surface owner(s) and surface lessee(s) regarding the requirements for the protection of surface resources and reclamation of disturbed areas and/or damages in lieu thereof, or if an agreement cannot be reached, will comply with the provisions of the law or the regulations governing Federal or Indian right of reentry to the surface under 43 CFR 3814.

I also certify that:

A. All potentially affected landowners having properly permitted water wells with the WSEO within each producible well's Circle of Influence (0.5-mile radius) will be offered a Water Well Agreement; and

B. If a Water Well Agreement is not reached with the landowner, AEPC agrees to mitigate the impacts of its producible wells in accordance with State of Wyoming water laws; and

C. Permits to Appropriate Groundwater have been applied for from the Wyoming State Engineer's Office, concurrently with these Applications for Permits to Drill.

I also certify that AEPC 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.

I also certify that AEPC shall use its best efforts to conduct its approved operations in accordance with the Project-wide Mitigation Measures and procedures outlined in Chapter 2 of the Environmental Assessment (EA) for this project.

By: _____Date: _____
Gary Sundberg
Permit Agent for Anadarko E & P Company

BROWN COW II POD

OPERATORS:
Warren E & P, Inc.
Anadarko E & P Company

List of Exhibits:
Exhibit 1 (A): Overall project map

Exhibit 2: Pad cut & fill diagram

Exhibit 3: Access road plan & profile

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Exhibit 1
Overall Project Map

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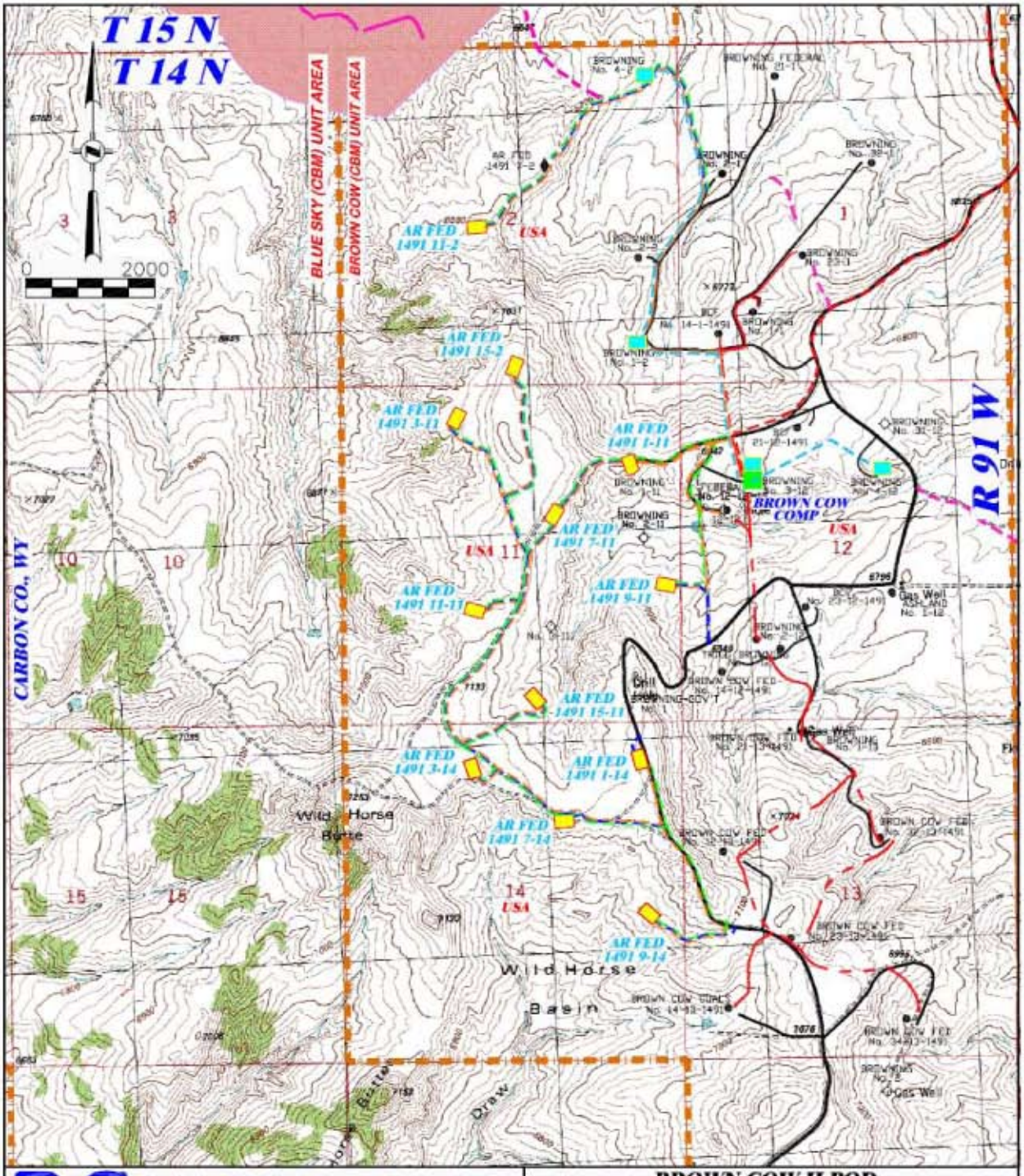

DRIFFIN & ASSOCIATES, INC.
1414 ELK ST ROCK SPRINGS, WY 82901

BROWN COW II POD

Anadarko Petroleum Corporation

EXISTING ROAD	INJECTION WELL
PROPOSED ROAD	HP WATER LINE
EXISTING PIPELINE	PROPOSED PIPELINE
HISTORIC TRAIL	PROPOSED ELECTRICAL

JOB No. 9635	SCALE: 1" = 2000'
REVISED: 6/14/06	EXHIBIT A

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Exhibit 2
Pad Cut and Fill Diagrams

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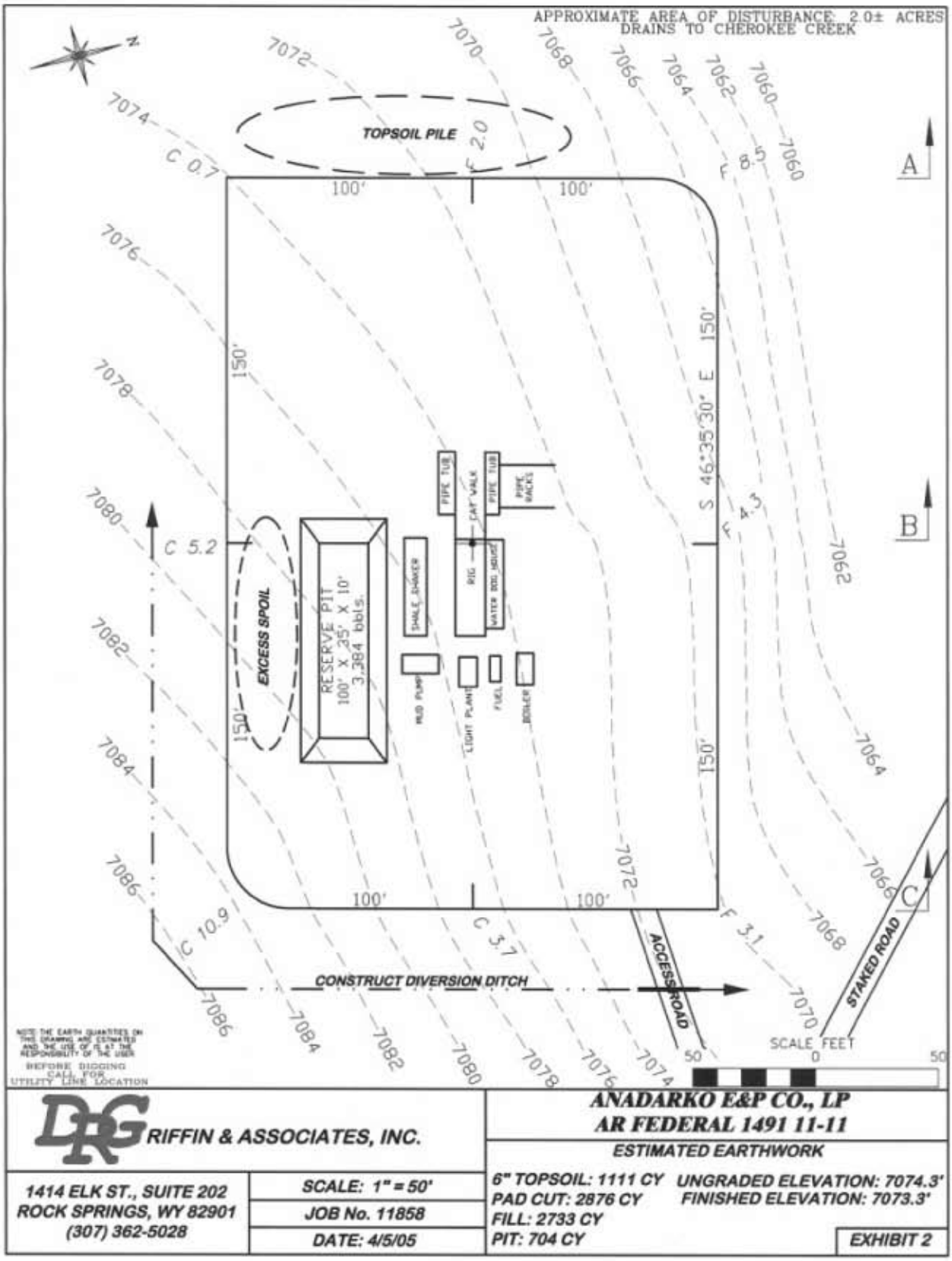
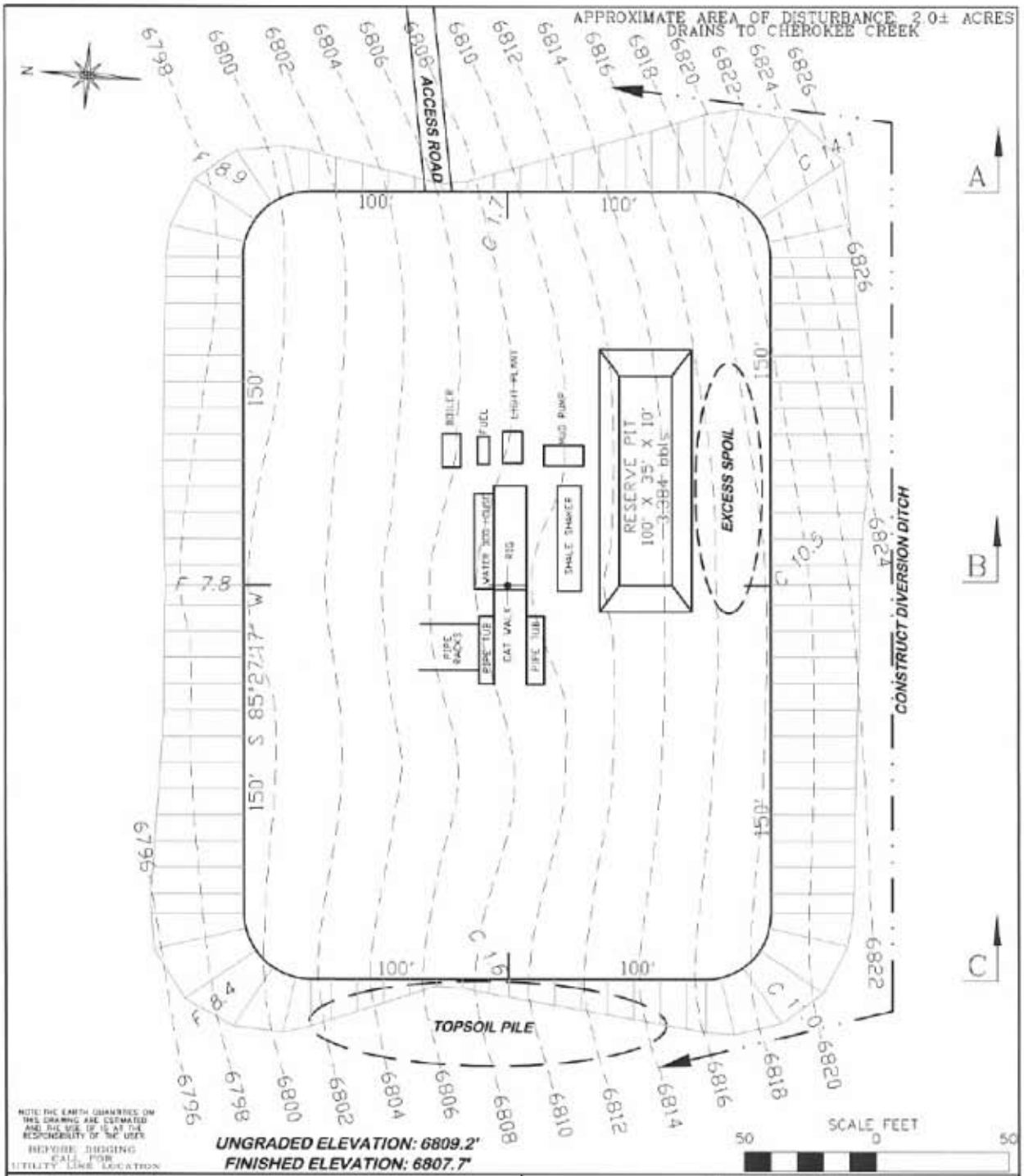


GRIFFIN & ASSOCIATES, INC.	ANADARKO E&P CO., LP AR FEDERAL 1491 11-11
1414 ELK ST., SUITE 202 ROCK SPRINGS, WY 82901 (307) 362-5028	SCALE: 1" = 50' JOB No. 11858 DATE: 4/5/05
	ESTIMATED EARTHWORK 6" TOPSOIL: 1111 CY UNGRADED ELEVATION: 7074.3' PAD CUT: 2876 CY FINISHED ELEVATION: 7073.3' FILL: 2733 CY PIT: 704 CY EXHIBIT 2



GRIFFIN & ASSOCIATES, INC.

1414 ELK ST., SUITE 202
ROCK SPRINGS, WY 82901
(307) 362-5028

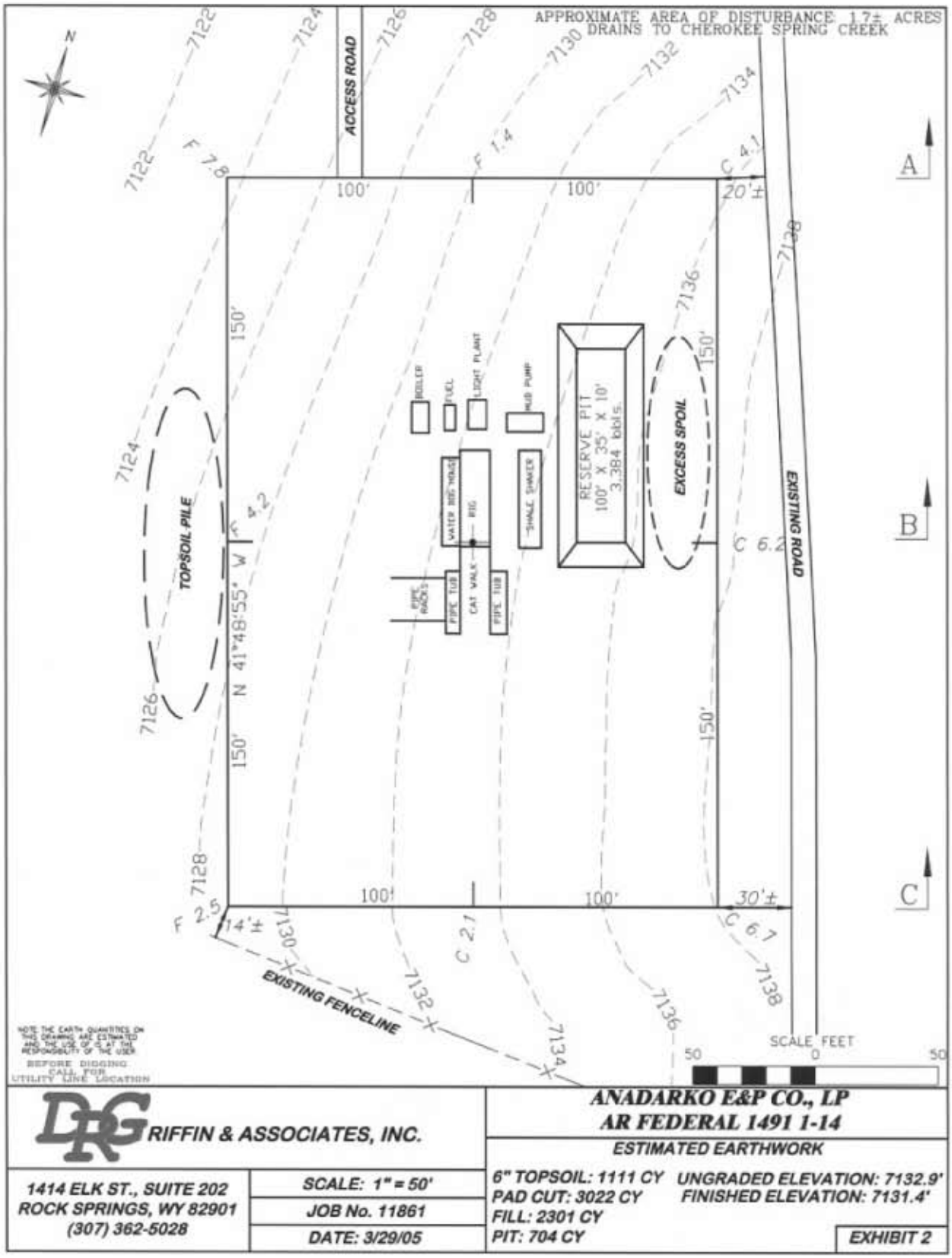
SCALE: 1" = 50'
JOB No. 11853
REVISED: 6/27/05

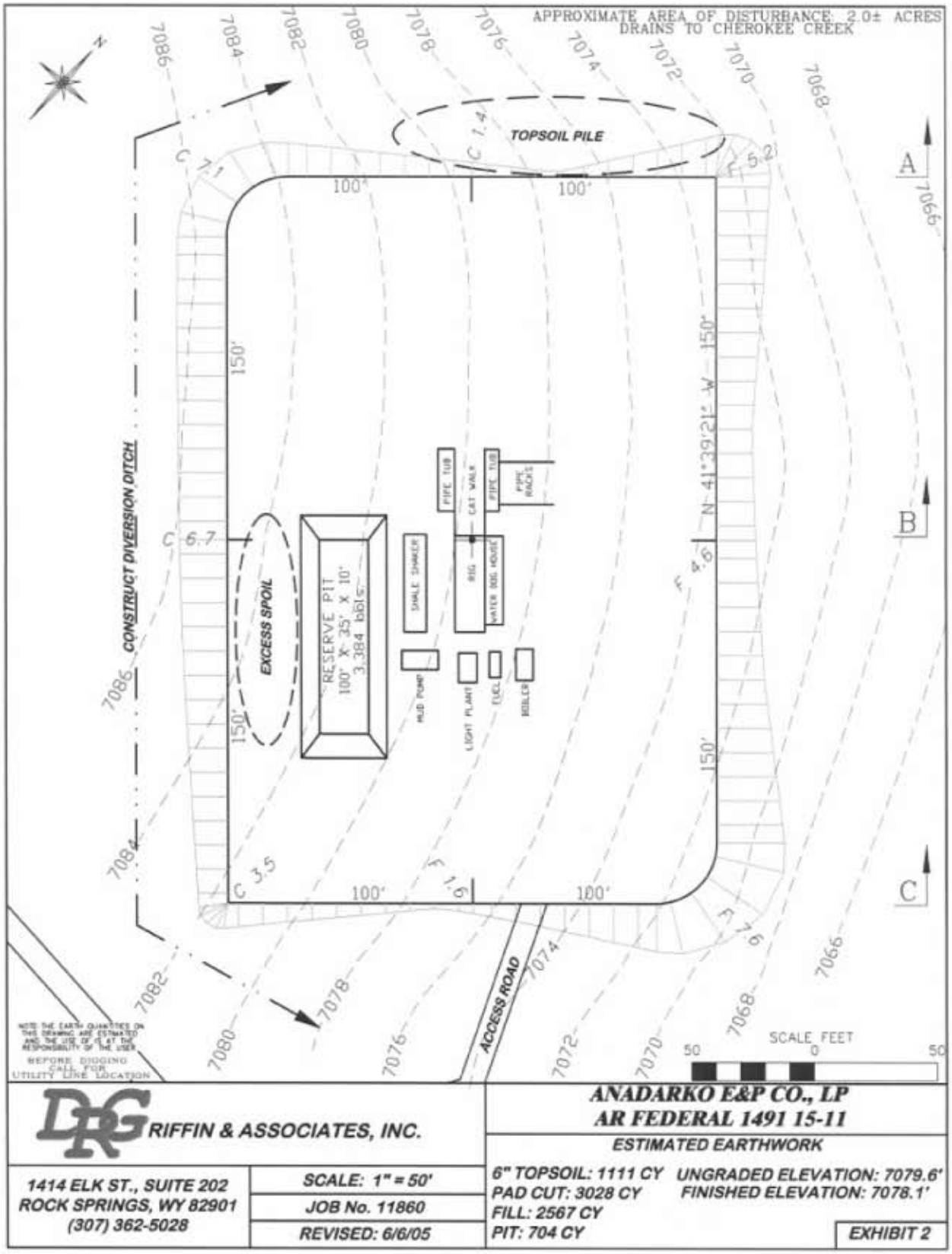
Anadarko Petroleum Corporation

AR FEDERAL 1491 11-2

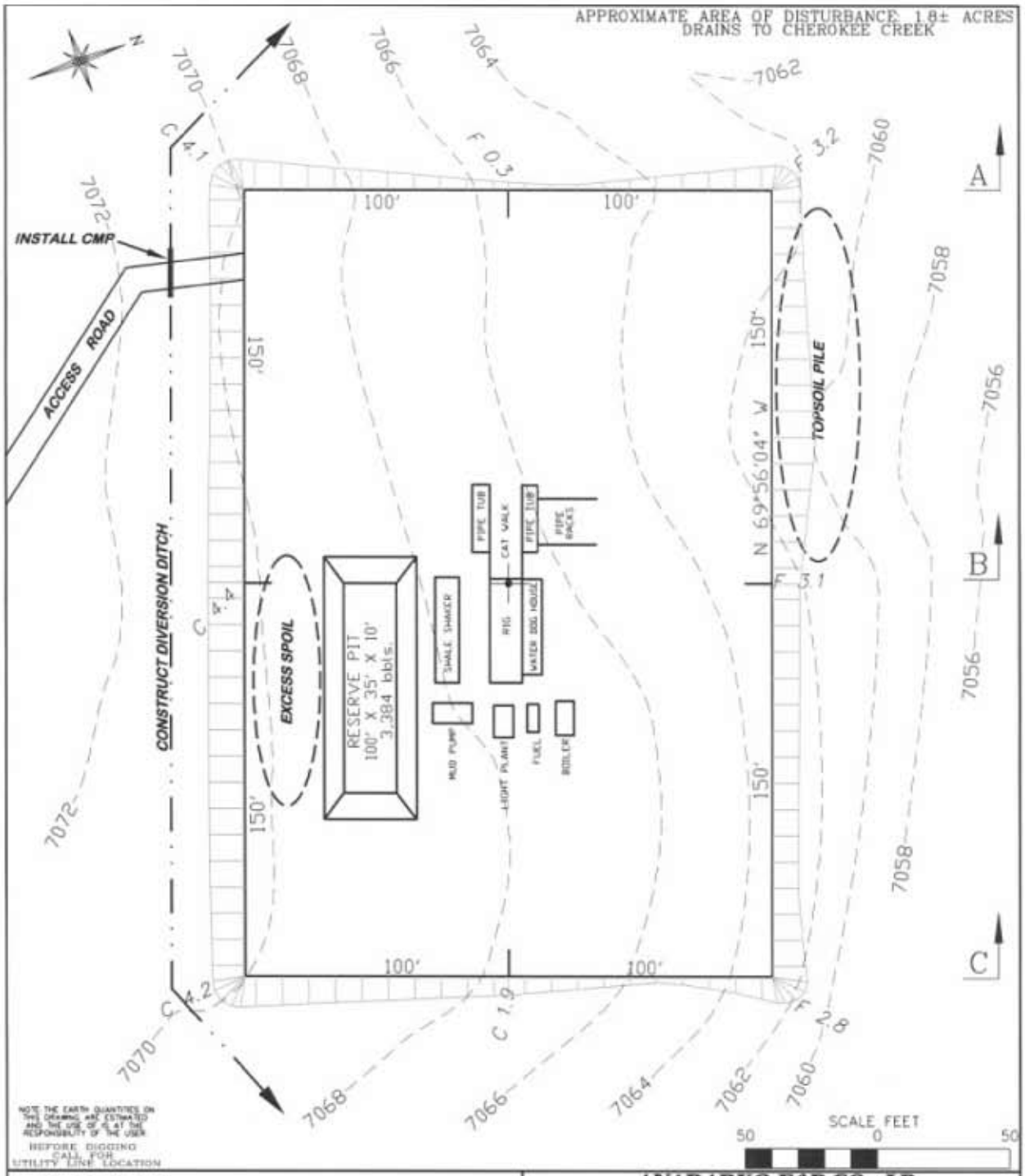
ESTIMATED EARTHWORK

ITEM	CUT	FILL	TOPSOIL	EXCESS
PAD	6630 CY	4489 CY	1111 CY	1030 CY
PIT	704 CY			704 CY
TOTALS	7334 CY	4489 CY	1111 CY	1734 CY

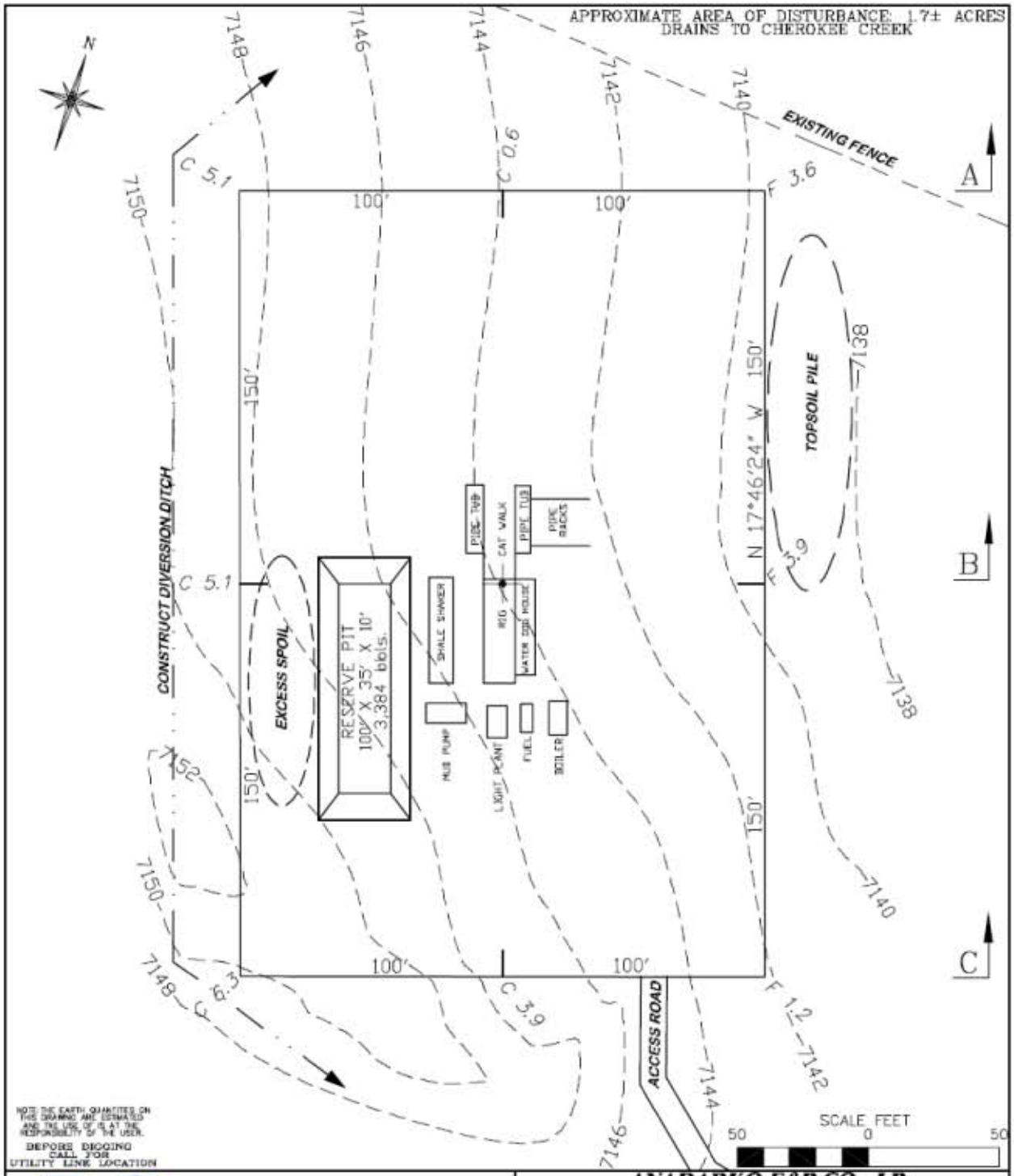

APPROXIMATE AREA OF DISTURBANCE 1.7± ACRES
DRAINS TO CHEROKEE SPRING CREEK
ACCESS ROAD
EXISTING ROAD
TOPSOIL PILE
RESERVE PIT
100' X 35' X 10'
3,384 bbls.
EXCESS SPOIL
BOILER
FUEL
LIGHT PLANT
MUD PUMP
WATER DISTRIBUTOR
RIG
SHALE SHAKER
PIPE RACKS
PIPE TUB
CAT WALK
PIPE TUB
N 41°48'55" W
150'
100'
20'±
30'±
14'±
EXISTING FENCELINE
SCALE FEET
50
0
50
A
B
C
NOTE THE EARTH QUANTITIES ON THIS DRAWING ARE ESTIMATED AND THE USE OF IS AT THE RESPONSIBILITY OF THE USER
BEFORE DIGGING CALL FOR UTILITY LINE LOCATION
GRIFFIN & ASSOCIATES, INC.
1414 ELK ST., SUITE 202
ROCK SPRINGS, WY 82901
(307) 362-5028
SCALE: 1" = 50'
JOB No. 11861
DATE: 3/29/05
ANADARKO E&P CO., LP
AR FEDERAL 1491 1-14
ESTIMATED EARTHWORK
6" TOPSOIL: 1111 CY
PAD CUT: 3022 CY
FILL: 2301 CY
PIT: 704 CY
UNGRADED ELEVATION: 7132.9'
FINISHED ELEVATION: 7131.4'
EXHIBIT 2



RIFFIN & ASSOCIATES, INC.	ANADARKO E&P CO., LP AR FEDERAL 1491 15-11
1414 ELK ST., SUITE 202 ROCK SPRINGS, WY 82901 (307) 362-5028	SCALE: 1" = 50' JOB No. 11860 REVISED: 6/6/05
	ESTIMATED EARTHWORK 6" TOPSOIL: 1111 CY UNGRADED ELEVATION: 7079.6' PAD CUT: 3028 CY FINISHED ELEVATION: 7078.1' FILL: 2567 CY PIT: 704 CY EXHIBIT 2



RIFFIN & ASSOCIATES, INC.	ANADARKO E&P CO., LP AR FEDERAL 1491 15-2
1414 ELK ST., SUITE 202 ROCK SPRINGS, WY 82901 (307) 362-5028	SCALE: 1" = 50' JOB No. 11854 REVISED: 6/6/05
	ESTIMATED EARTHWORK 6" TOPSOIL: 1111 CY PAD CUT: 2007 CY FILL: 1466 CY PIT: 704 CY UNGRADED ELEVATION: 7066.8' FINISHED ELEVATION: 7065.8' EXHIBIT 2



GRIFFIN & ASSOCIATES, INC.

1414 ELK ST., SUITE 202
ROCK SPRINGS, WY 82901
(307) 362-5028

SCALE: 1" = 50'
JOB No. 11862
REVISED: 4/21/06

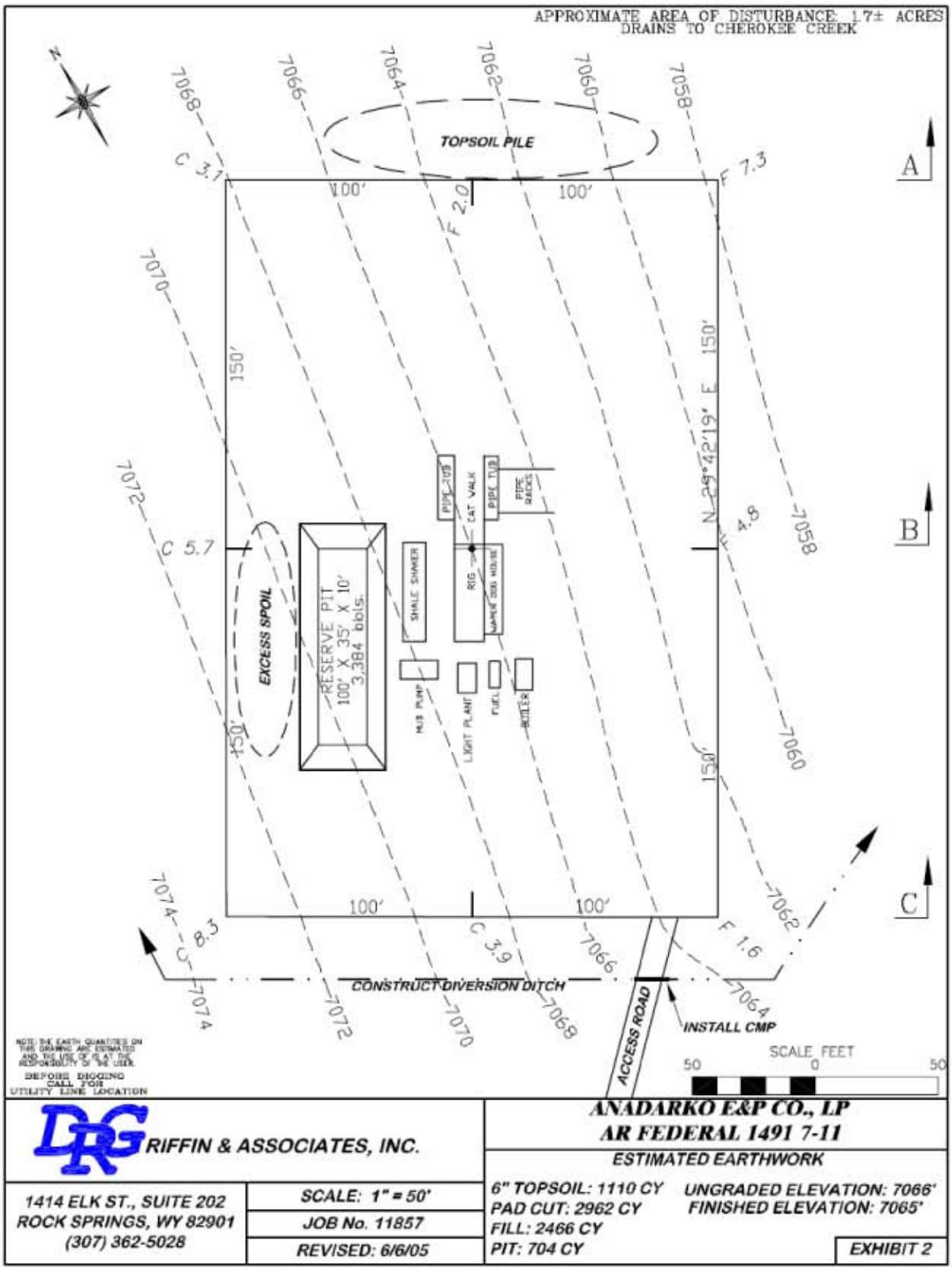
ANADARKO E&P CO., LP
AR FEDERAL 1491 3-14

ESTIMATED EARTHWORK

6" TOPSOIL: 1111 CY
PAD CUT: 3548 CY
FILL: 1322 CY
PIT: 704 CY

UNGRADED ELEVATION: 7143.9'
FINISHED ELEVATION: 7143.4'

EXHIBIT 2



GRIFFIN & ASSOCIATES, INC.

1414 ELK ST., SUITE 202
ROCK SPRINGS, WY 82901
(307) 362-5028

SCALE: 1" = 50'
JOB No. 11857
REVISED: 6/6/05

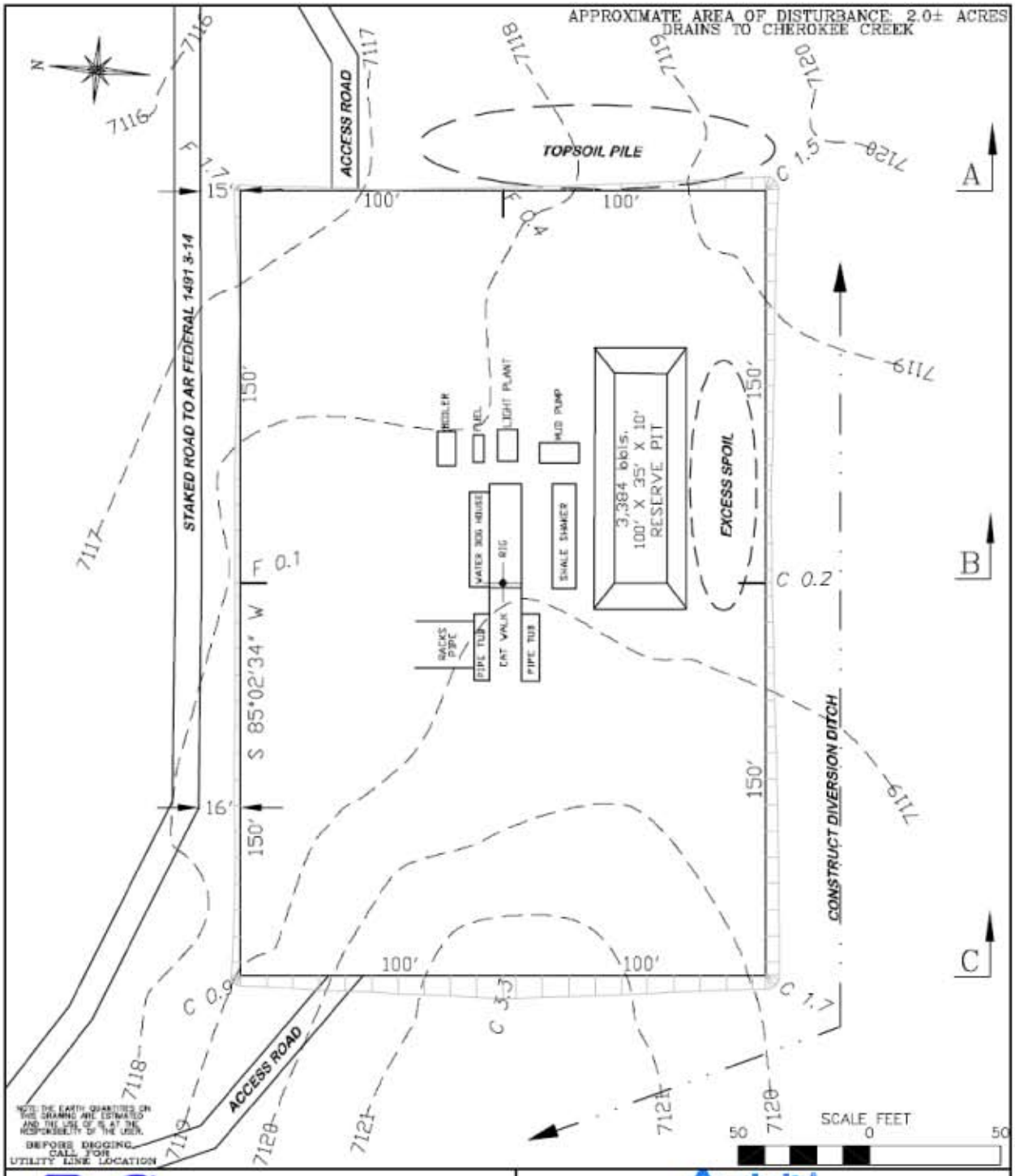
ANADARKO E&P CO., LP
AR FEDERAL 1491 7-11

ESTIMATED EARTHWORK

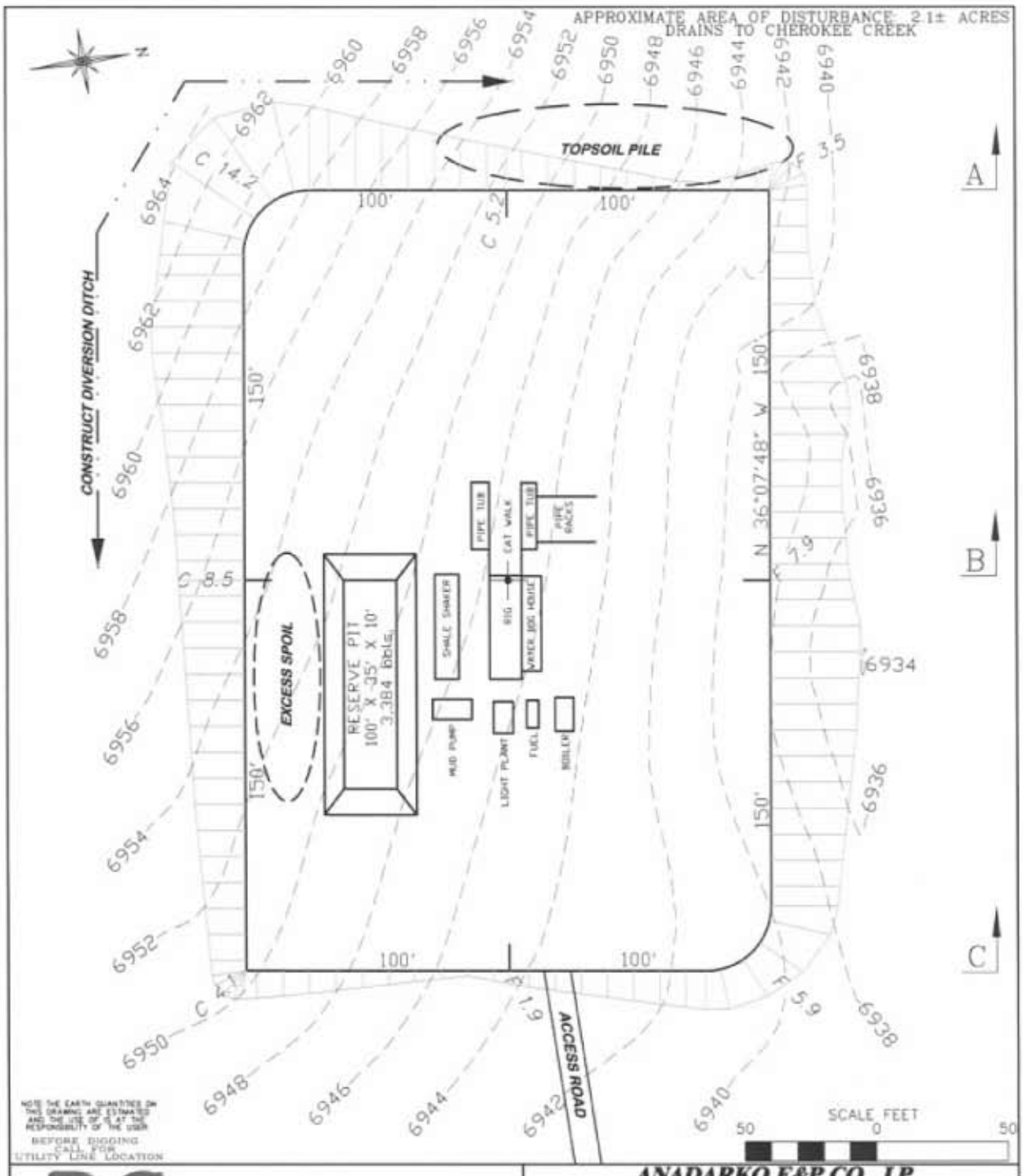
6" TOPSOIL: 1110 CY
PAD CUT: 2962 CY
FILL: 2466 CY
PIT: 704 CY

UNGRADED ELEVATION: 7066'
FINISHED ELEVATION: 7065'

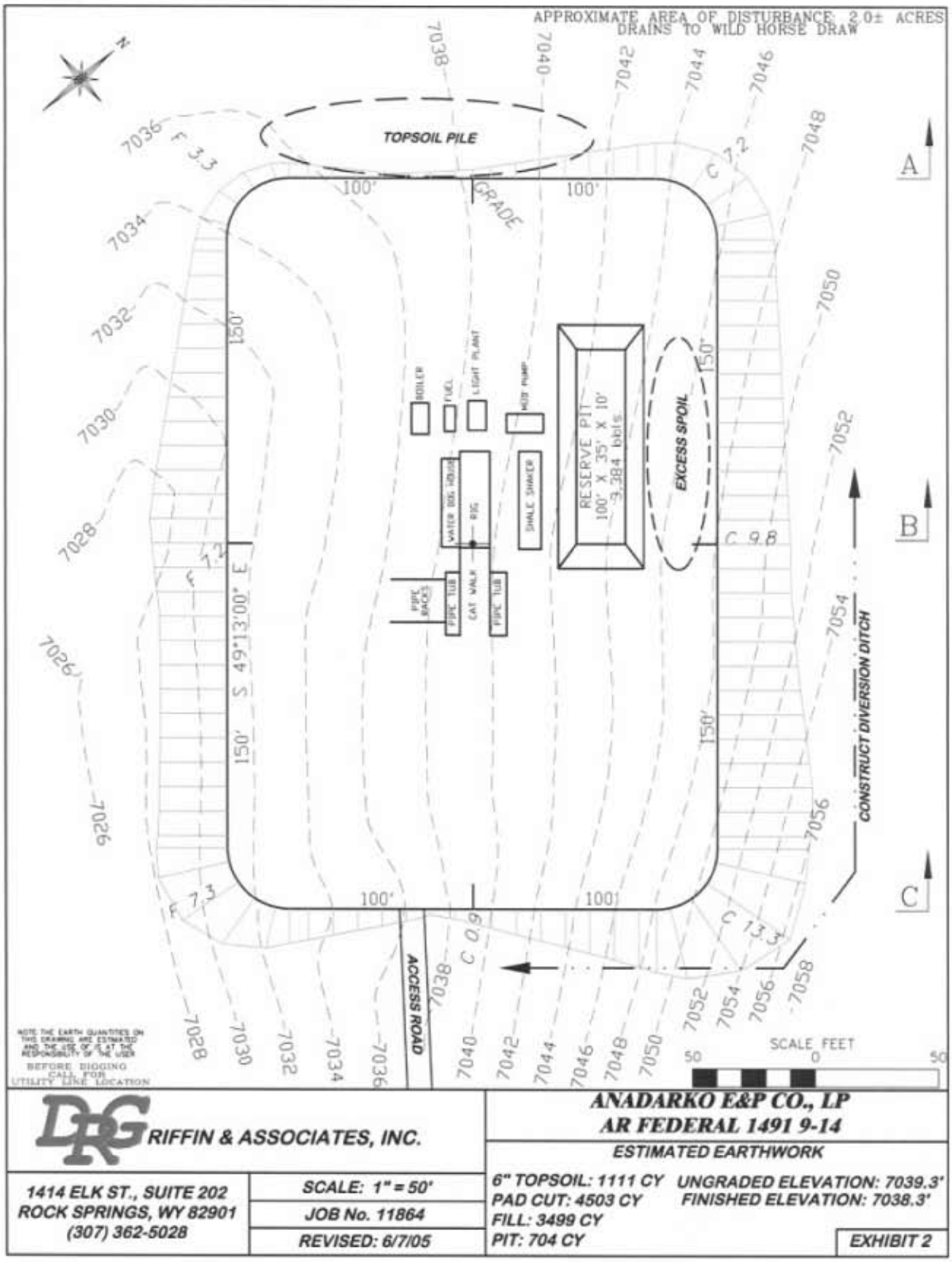
EXHIBIT 2



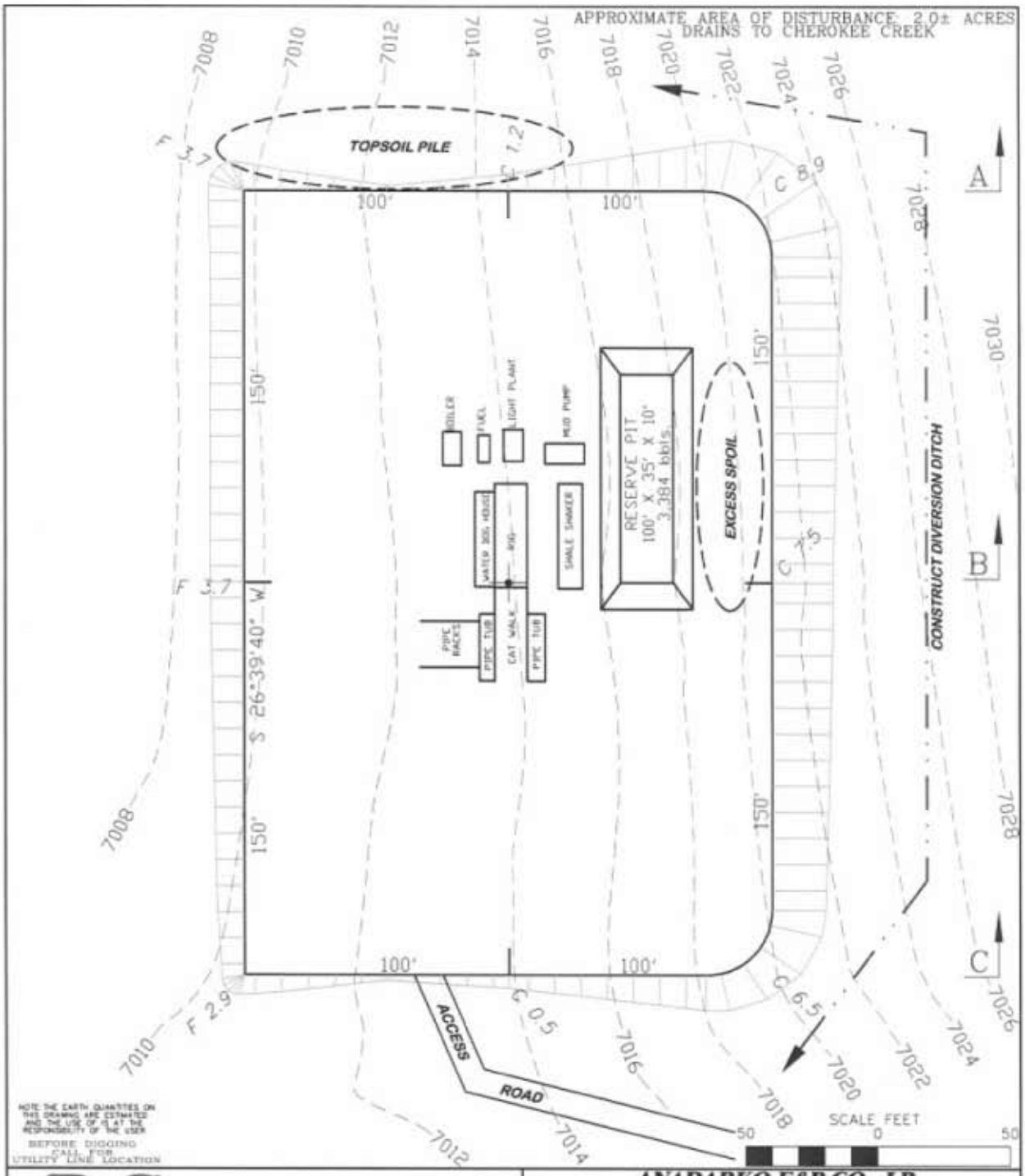
GRIFFIN & ASSOCIATES, INC.		AR FEDERAL 1491 7-14 ESTIMATED EARTHWORK				
1414 ELK ST., SUITE 202 ROCK SPRINGS, WY 82901 (307) 362-5028	SCALE: 1" = 50'	ITEM	CUT	FILL	TOPSOIL	EXCESS
	JOB No. 11863	PAD	1474 CY	248 CY	1111 CY	115 CY
	REVISED: 4/20/06	PIT	704 CY			704 CY
		TOTALS	2178 CY	248 CY	1111 CY	819 CY



RIFFIN & ASSOCIATES, INC.		ANADARKO E&P CO., LP AR FEDERAL 1491 9-11
		ESTIMATED EARTHWORK
1414 ELK ST., SUITE 202 ROCK SPRINGS, WY 82901 (307) 362-5028	SCALE: 1" = 50' JOB No. 11859 REVISED: 6/7/05	6" TOPSOIL: 1112 CY PAD CUT: 4573 CY FILL: 3546 CY PIT: 704 CY UNGRADED ELEVATION: 6947.2' FINISHED ELEVATION: 6946.2' EXHIBIT 2



GRIFFIN & ASSOCIATES, INC.	ANADARKO E&P CO., LP AR FEDERAL 1491 9-14
1414 ELK ST., SUITE 202 ROCK SPRINGS, WY 82901 (307) 362-5028	SCALE: 1" = 50' JOB No. 11864 REVISED: 6/7/05
	ESTIMATED EARTHWORK 6" TOPSOIL: 1111 CY PAD CUT: 4503 CY FILL: 3499 CY PIT: 704 CY UNGRADED ELEVATION: 7039.3' FINISHED ELEVATION: 7038.3' EXHIBIT 2



DRG RIFFIN & ASSOCIATES, INC.	ANADARKO E&P CO., LP AR FEDERAL 1491 3-11
1414 ELK ST., SUITE 202 ROCK SPRINGS, WY 82901 (307) 362-5028	SCALE: 1" = 50' JOB No. 12589 REVISED: 6/6/05
	ESTIMATED EARTHWORK 6" TOPSOIL: 1111 CY UNGRADED ELEVATION: 7013.9' PAD CUT: 3296 CY FINISHED ELEVATION: 7013.4' FILL: 1613 CY PIT: 704 CY EXHIBIT 2

Exhibit 3
Access Road Plan and Profiles.

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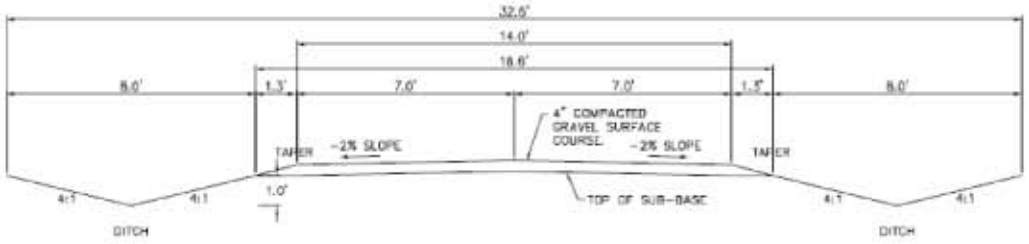


PROPOSED ACCESS ROAD

RIP RAP IN BAR DITCH
(ONLY WHERE SPECIFIED)

WING DITCH (DETAIL)

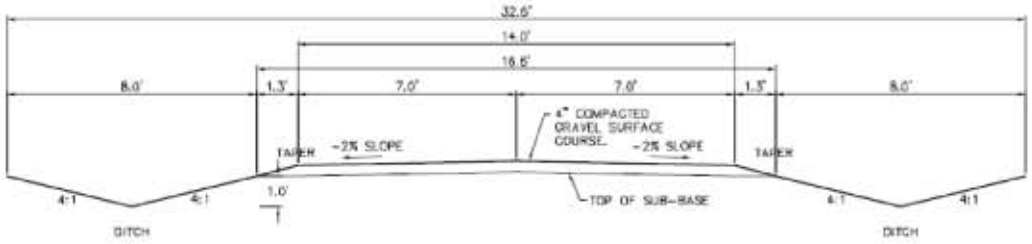
RIP RAP IN WING DITCH (DETAIL)
(ONLY WHERE SPECIFIED)

WIDEN SURFACE WIDTH AS SHOWN WHERE TURNOUTS ARE REQUIRED

PLAN
TURNOUT–WIDENING ON ONE SIDE
(DETAIL)

PLAN
TURNOUT–WIDENING ON BOTH SIDES
(DETAIL)

TYPICAL DETAILS	NOT TO SCALE	PAGE 3 of 8

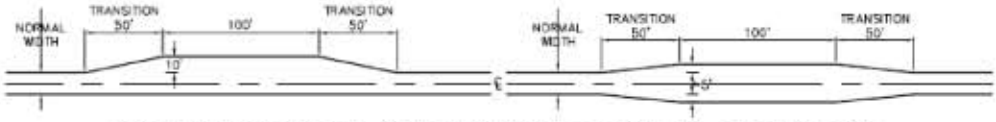


PROPOSED ACCESS ROAD

RIP RAP IN BAR DITCH
(ONLY WHERE SPECIFIED)

WING DITCH (DETAIL)

RIP RAP IN WING DITCH (DETAIL)
(ONLY WHERE SPECIFIED)

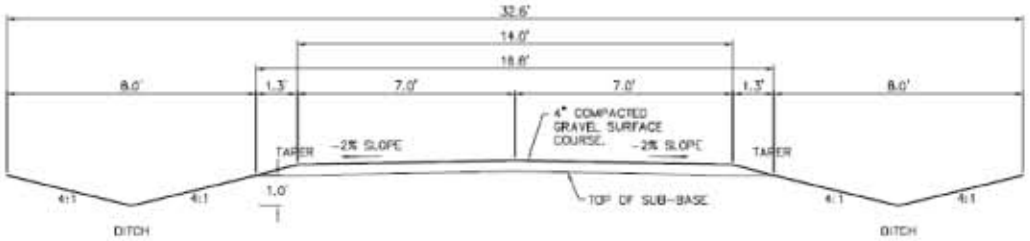


WIDEN SURFACE WIDTH AS SHOWN WHERE TURNOUTS ARE REQUIRED

PLAN
TURNOUT–WIDENING ON ONE SIDE
(DETAIL)

PLAN
TURNOUT–WIDENING ON BOTH SIDES
(DETAIL)

TYPICAL DETAILS	NOT TO SCALE	PAGE 2 of 4

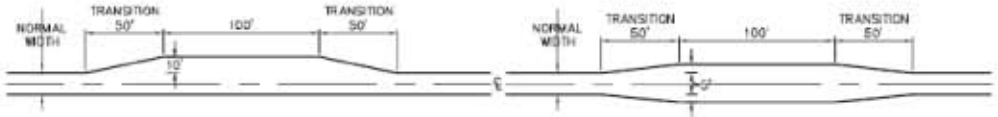


PROPOSED ACCESS ROAD

RIP RAP IN BAR DITCH
(ONLY WHERE SPECIFIED)

WING DITCH (DETAIL)

RIP RAP IN WING DITCH (DETAIL)
(ONLY WHERE SPECIFIED)

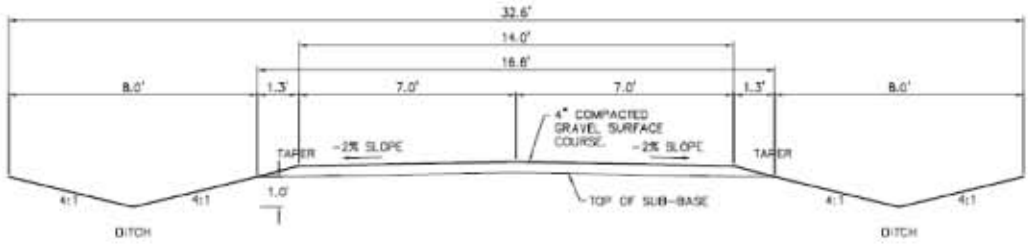


WIDEN SURFACE WIDTH AS SHOWN WHERE TURNOUTS ARE REQUIRED

PLAN
TURNOUT–WIDENING ON ONE SIDE
(DETAIL)

PLAN
TURNOUT–WIDENING ON BOTH SIDES
(DETAIL)

TYPICAL DETAILS	NOT TO SCALE	PAGE 2 of 6

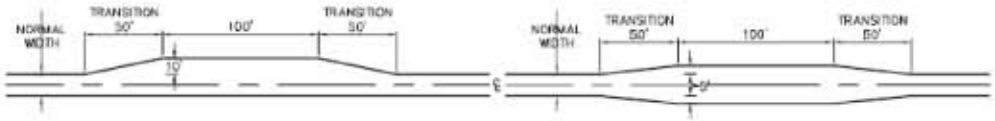


PROPOSED ACCESS ROAD

RIP RAP IN BAR DITCH
(ONLY WHERE SPECIFIED)

WING DITCH (DETAIL)

RIP RAP IN WING DITCH (DETAIL)
(ONLY WHERE SPECIFIED)

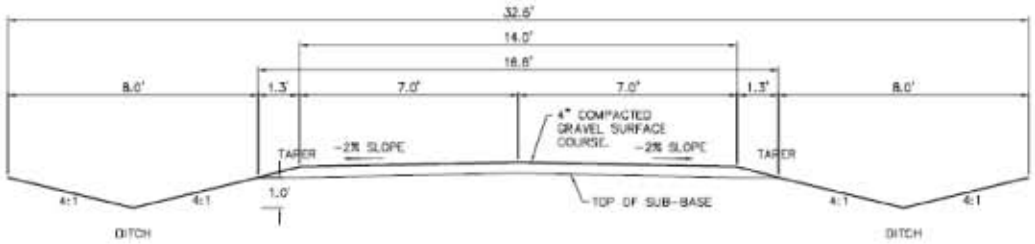


WIDEN SURFACE WIDTH AS SHOWN WHERE TURNOUTS ARE REQUIRED

PLAN
TURNOUT–WIDENING ON ONE SIDE
(DETAIL)

PLAN
TURNOUT–WIDENING ON BOTH SIDES
(DETAIL)

TYPICAL DETAILS	NOT TO SCALE	PAGE 2 of 6

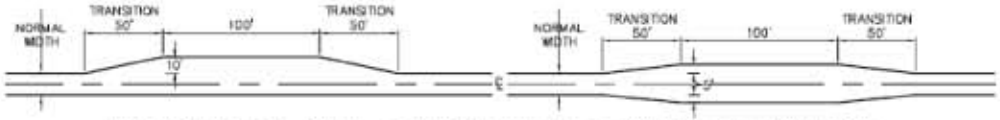


PROPOSED ACCESS ROAD

RIP RAP IN BAR DITCH
(ONLY WHERE SPECIFIED)

WING DITCH (DETAIL)

RIP RAP IN WING DITCH (DETAIL)
(ONLY WHERE SPECIFIED)

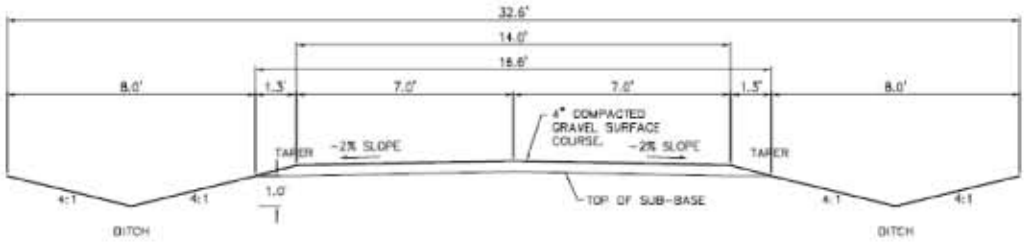


WIDEN SURFACE WIDTH AS SHOWN WHERE TURNOUTS ARE REQUIRED

PLAN
TURNOUT–WIDENING ON ONE SIDE
(DETAIL)

PLAN
TURNOUT–WIDENING ON BOTH SIDES
(DETAIL)

TYPICAL DETAILS	NOT TO SCALE	PAGE 2 of 4

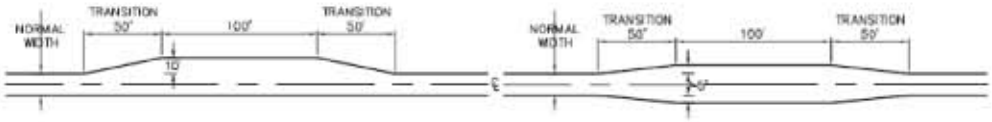


PROPOSED ACCESS ROAD

RIP RAP IN BAR DITCH
(ONLY WHERE SPECIFIED)

WING DITCH (DETAIL)

RIP RAP IN WING DITCH (DETAIL)
(ONLY WHERE SPECIFIED)

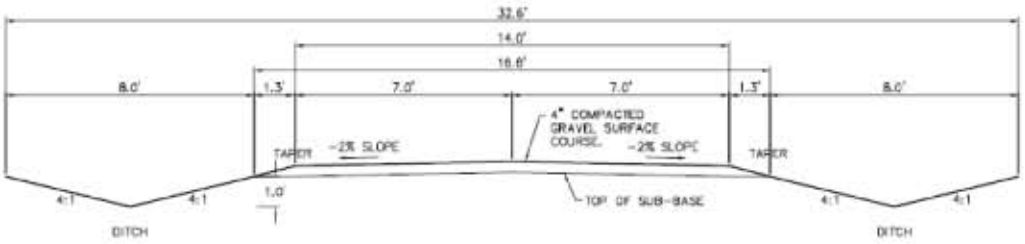


WIDEN SURFACE WIDTH AS SHOWN WHERE TURNOUTS ARE REQUIRED

PLAN
TURNOUT–WIDENING ON ONE SIDE
(DETAIL)

PLAN
TURNOUT–WIDENING ON BOTH SIDES
(DETAIL)

TYPICAL DETAILS	NOT TO SCALE	PAGE 2 of 7



PROPOSED ACCESS ROAD

RIP RAP IN BAR DITCH
(ONLY WHERE SPECIFIED)

WING DITCH (DETAIL)

RIP RAP IN WING DITCH (DETAIL)
(ONLY WHERE SPECIFIED)

WIDEN SURFACE WIDTH AS SHOWN WHERE TURNOUTS ARE REQUIRED

PLAN
TURNOUT–WIDENING ON ONE SIDE
(DETAIL)

PLAN
TURNOUT–WIDENING ON BOTH SIDES
(DETAIL)

TYPICAL DETAILS	NOT TO SCALE	PAGE 2 of 5