

WHITEWATER OIL & GAS FIELD

Master Surface Use Plan of Operations



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Purpose of Development Program

Aspen Operating proposes to drill natural gas wells at 24 sites on public (BLM) land at the foot of Grand Mesa between Palisade and Whitewater. Aspen proposes to drill two wells per site in an exploration phase. The project will use 10 existing previously reclaimed well sites, and develop 14 new sites. Aspen will primarily use existing roads for access, but will have to construct approximately 3 miles of new roads to support the project. The gas gathering lines will be buried within, or adjacent to the roads. Upon completion of the exploration phase up to an additional 126 additional wells may be drilled from the 24 sites. With the complete well count to be 174 wells.

Aspen Operating has focused on ensuring that the proposed development of the wells occurs in a safe, environmentally-sound manner with an emphasis on minimizing surface disturbance. This effort includes on-site visits with personnel from the BLM Grand Junction Field Office which occurred on September 5th and 6th, October 17th and 18th, and November 8, 2007. The recommendations of BLM personnel are reflected in the planning materials in this surface use plan. Aspen also commits to adhering to the “Watershed Plan for the Town of Palisade and the City of Grand Junction” when activities take place within the defined watersheds. The well sites addressed by this surface use plan of operations are listed below in **Table 1**.

Table 1. Proposed Well Sites

Well Sites	Legal Location	Lease Number
12S-98W-1-2	Lot 17 Sec 1 T12S R98W	COC-61718
12S-98W-1-4	Lot 11 Sec 1 T12S R98W	COC-61718
12S-98W-11-3	Lot 7 Sec 1 T12S R98W	COC-61718
12S-98W-12-6	Lot 15 Sec 1 T12S R98W	COC-61718
13S-97W-6-3	SESW Sec 6 T13S R97W	COC-62811
12S-98W-24-4	SENW Sec 24 T12S R98W	COC-62814
13S-97W-7-2	NWSE Sec 7 T13S R97W	COC-63027
13S-97W-8-2	NWSW Sec 8 T13S R97W	COC-63027
13S-97W-17-2	SWNW Sec 17 T13S R97W	COC-63027
13S-97W-18-2	NESW Sec 18 T13S R97W	COC-63027
13S-98W-13-2	SENE Sec 13 T13S R98W	COC-63033
12S-97W-7-1	Lot 6 Sec 7 T12S R97W	COC-63929
2S-2E-14-2	SWNE Sec 14 T2S R2E	COC-63975
2S-2E-14-3	SWSW Sec 14 T2S R2E	COC-63975
1S-2E-26-2	SESE Sec 26 T1S R2E	COC-64746
1S-2E-15-1	SENW Sec 15 T1S R2E	COC-64949
1S-2E-16-3	NESW Sec 16 T1S R2E	COC-64950
1S-2E-21-2	SENE Sec 21 T1S R2E	COC-64950
1S-2E-23-1	NWNE Sec 23 T1S R2E	COC-64950
1S-2E-24-1	NWNW Sec 24 T1S R2E	COC-64951
1S-2E-25-2	SWNW Sec 25 T1S R2E	COC-64951
1S-2E-26-3	NWNE Sec 26 T1S R2E	COC-64952
1S-2E-36-3	NWNE Sec 36 T1S R2E	COC-64952
2S-2E-15-3	NWSW Sec 15 T2S R2E	COC-64955

Nature of Resource

Aspen Operating, LLC proposes to transition its exploratory activity to production within the Whitewater area. As viewed from the slopes of the Grand Mesa, well activity will take place from the edge of the steep slopes of the mesa out toward Highway 50. Exploratory work has been undertaken within the area during the past. The most significant activity prior to the current work was during the early 1980's. This work was primarily undertaken by Mitchell Energy Corporation and a few other companies. This work and other early exploratory work revealed oil and gas within the area spanning from Palisade, Colorado to Eckert, Colorado. The gas was never produced due to low natural gas prices and a lack of nearby gas transmission lines. The oil shows and tests from the previous and current exploratory work indicate that some of the wells within the proposed area of development will produce oil as well as natural gas. At this time, it is difficult to predict which wells, and to what extent oil will occur within the field. Items associated with the oil will be further addressed in the Operations Section.

Location of Development

In the Whitewater area, most of the land surface slopes southwest and southward into the Gunnison River valley from Grand Mesa, the dominant topographic feature of the area. In the northwest corner of the area the surface slopes northward into the Colorado River Valley. Subsidiary mesas, topographic benches and pediment surfaces are abundant at lower elevations. Elevations range from 4,500 feet at Palisade to about 10,650 feet on Grand Mesa.

The drainage flows generally southwest into the Gunnison River through Whitewater, Kannah, Deer, Wells, Alkali and Tongue Creeks, and a few smaller unnamed tributaries. The northwest corner of the area drains northward into the Colorado River via Watson, Sink and other creeks. The upper reaches of Grand Mesa are heavily forested but its slopes are sparsely vegetated, particularly where they are underlain by the Mancos Shale due to its high alkali content. The valley bottoms and river floodplains are suitable for agricultural use, particularly grazing.

The only nearby cities are Grand Junction, located about five miles west of the northwest corner of the area, and Delta, Colorado situated some distance southeast of the area. The village of Whitewater lies on the west edge, and Palisade is on the north edge of the area. Orchard City, Eckert and Cedaredge lie along Tongue Creek valley on the east edge of the map area. There are no population centers within the map area and only a few scattered farms and ranches.

The map set in **Appendix A** depicts the topographic, hydrologic, cultural (roads, ditches, etc.) and other important information for the proposed development area, and surrounding areas.

Patterns of Development

Aspen Operating, LLC proposes to continue drilling using its existing rigs, and a similar operational plan that is currently being used for the exploratory program. Two to three pads are anticipated for each section (square mile) within the development. This may be reduced to one pad within some sections and may increase to four to five in some areas depending on various factors such as topography, geology, and locations of previous wells pads. Well planning progressed through the development area initially by locating pads used for previous exploratory

work. This principle helps to significantly minimize surface disturbance in the area through reuse of the pads and associated roads for the development. Vertical and horizontal well planning then occurred for the reused pad sites. Based on the anticipated reach distances for the horizontal legs of the wells, additional pad sites were then selected to fill in the remaining areas.

1. Existing Roads

The proposed development primarily utilizes existing two-track and improved roads. A majority of these roads were constructed as part of the 1970's to 1980's exploration program within the area. The remaining existing roads were developed to service energy transmission corridors (natural gas and electricity), or for ranch access within the City of Grand Junction's Somerville Ranch. Approximately 21.5 miles of roadway will be improved as part of this project. Planning, maintenance and construction of the roads, drainage dips and culverts will occur in conformance with BLM road standards using the "Gold Book", *Surface Use Standards for Oil and Gas Exploration and Development*, and the *BLM Road Standards Manual 9113*.

Road Geometry

In most areas, roads will be constructed with a minimum running surface of 14 feet. However in side hill sections of the road, the running width may be reduced to 12 feet to reduce construction volumes and surface impacts. Grade will be maintained at grades less than 8% for a majority of the proposed area. Segments of roads exceeding 8% maximum grade will be limited to short distances, such as at the entrance and exit of low water crossings.

Flat sections of road will be crowned with a minimum slope of 3%. In most cases the crown of the road will be built from the material cut from the side ditches. For side hill sections of road, the running surface slope will dip in towards the hill. This will guide runoff into the toe of the slope. Running surface slope will be maintained at a minimum of 3%.

Where necessary, turnouts will be installed along the roadway. They will be installed in areas that require little additional disturbance, such as level ground areas. The turnout length will be approximately 100 feet, with a width of approximately 10 feet.

In flat areas, 3:1 (horizontal to vertical) cut ditches will provide drainage on both sides of the road. If necessary, energy dissipaters, such as native cobble, will be placed within the ditch to reduce water velocities. As necessary, water bars or dips will be installed to allow drainage to pass across the road in a controlled fashion. Frequency of bars and dips will be determined using site specific criteria.

Erosion and Stormwater Control

Due to the highly erosive nature of the project area, all construction will require erosion and stormwater control structures. Structures will be designed to minimize run-on events. Primarily berms and ditches will be utilized. All roads will have side barrow ditches or a single inside ditch for side hill sections. These ditches along with the crown will allow water from the road to run into the ditches and offsite run-on to be diverted from the road surfaces. Pads will also be protected in a similar fashion. Each well site plat includes the BMP's to be utilized for site specific concerns.

At water bars/dips and other ditch exits within the ROW corridor, sediment catches and energy dissipaters will be utilized. These structures will be shallow holes armored and filtered by native basalt cobble. These catches will be one of the more maintenance intensive aspects of the design. It is likely that they will require regular cleaning. Material cleaned from these areas will be utilized in building/rebuilding crowns.

Low water crossings will be utilized rather than culverts due to the storm types in the area. The Whitewater area experiences severe storm burst precipitation. This event type will require extremely oversized culverts for each crossing. Additionally, due to the highly erosive natural terrain surrounding the roads, culverts will require excessive maintenance due to deposition within the culvert. Most low water crossings will be small sub-drainages. However, a few larger drainages will be crossed. These large drainages were previously crossed by earlier exploration work. They were designed using BLM “Gold Book” standards. Aspen intends to maintain and slightly improve these crossings. All low water crossings will be armored in the channel bottom, as well as any other erosion susceptible areas in the nearby channel. Rather than importing rip-rap, native angular basalt cobble will be utilized. This will reduce road costs, as well as maintain the character of the area.

If necessary, berms and silt fences will be utilized for large fill slope areas. These devices will be utilized to prevent sediment from leaving the ROW corridor. However, the preferred treatment for fill slope runoff control will be prompt seeding and revegetation of the slopes.

Only a few fences are crossed within this project area. Currently these crossings are serviced by gates, or cattle guards. If traffic warrants the use of cattle guards rather than gates, guards will be installed as per the BLM or surface owner’s instruction.

Graveling of the roads within the area is not planned at this time, however, if site specific conditions require the installation of gravel, local suppliers will be utilized. 3” minus road based will be the mostly likely product used in the surfacing of the roads. Road improvement and maintenance will adhere to the BLM guidelines, unless site specific reasons require modification to the design criteria. During the improvement process, BLM representatives will be notified if site specific changes outside the “Gold Book” are necessary.

2. New or Reconstructed Access Roads

New or reconstructed access roads will be built and maintained using the same design standards as the existing roads. Very few new roads are planned for this project. The new road construction is limited to short spurs accessing new pad sites from existing roadways. Total new road construction within the proposed project is limited to approximately 3.3 miles.

Topsoil from newly built roads will either be windrowed along the uphill edge of the road, or stockpiled along with the new constructed pad’s topsoil. All stockpiled topsoil will be placed in shallow narrow piles and promptly seeded.

3. Location of Existing Wells

Locations of nearby existing wells are depicted with each individual well plat. The target formation for the wells is between approximately 3000 and 4500 feet deep. The current drilling

plan has designed the casing and cementing plans to ensure that groundwater producing formations are sealed and protected during production operations. Existing wells within 1 mile (injection, disposal, abandoned, producing, drilling) are listed in **Table 2**. Listed in **Table 3** are existing domestic and stock wells. These listings were obtained from data bases maintained by the Colorado Oil and Gas Conservation Commission, and the Colorado State Engineer's Office.

Table 2. Existing Oil and Gas Wells Within One Mile

O&G Wells	Operator	Location	Status
Federal 15-1-2	Mitchell Energy Corp	SESE 15 1S 2E	AL
Federal 16-1	Mitchell Energy Corp	SWSE 16 1S 2E	PA
Federal 21-1	Aspen Operating LLC	SENE 21 1S 2E	DA
Federal 1-23	Mitchell Energy Corp	NWNE 23 1S 2E	AL
Federal 25-1-2	Mitchell Energy Corp	SWNW 25 1S 2E	PA
Somerville 1-26	Unknown	SWSW 26 1S 2E	PA
Payne 1	Gillaspey & Associates	SWSE 27 1S 2E	PA
Federal 36-3	Aspen Operating LLC	NWNE 36 1S 2E	DA
Lough 36-1	Aspen Operating LLC	SWSE 36 1S 2E	SI
Lough 36-1-P	Aspen Operating LLC	SWSE 36 1S 2E	PM
Federal 12-2	Aspen Operating LLC	SESW 12 12S	SI
Federal 12-1A-E	Aspen Operating LLC	SWNW 12 12S 98W	SI
Federal 12-1A-I	Aspen Operating LLC	SWNW 12 12S 98W	PM
Federal 12-1A-K	Aspen Operating LLC	SWNW 12 12S 98W	PM
Federal 12-1	CMO Resources Inc.	SWNW 12 12S 98W	PA
Federal 12-1A	Aspen Operating LLC	SWNW 12 12S 98W	PR
Federal 12-12-98	Aspen Operating LLC	SWSE 12 12S 98W	PA
Federal 11-1	Aspen Operating LLC	N2N2 11 12S 98W	PR
Federal 11-2	Aspen Operating LLC	N2S2 11 12S 98W	DA
Federal 13-11	Aspen Operating LLC	NESW 13 12S 98W	SI
Federal 13-11-M	Aspen Operating LLC	NESW 13 12S 98W	SI
Federal 13-11-J	Aspen Operating LLC	NESW 13 12S 98W	PM
Federal 13-11-L	Aspen Operating LLC	NESW 13 12S 98W	PM
Fed # 13-1	Maralex Resources Inc.	SENE 13 12S 98W	SI
Dowd 6-13-97	Mitchell Energy Corp.	NWSW 6 13S 97W	DA
Shipp 6-2	Aspen Operating LLC	NWSW 6 13S 97W	SI
Federal 7-1	CMO Resources Inc.	NENW 7 13S 97W	DA
Federal C 1-7	Mitchell Energy Corp.	NWSE 7 13S 97W	AL
Federal 08-1	Colorado Pacific Petroleum Corp.	NWSW 8 13S 97W	PA
Federal 17-13-97	Mitchell Energy Corp.	SWNW 17 13S 97W	PA
Federal 18-1	Mitchell Energy Corp.	NESW 18 13S 97W	DA
Broken Spoke Ranch	Colorado Pacific Petroleum Corp.	SWSW 24 12S 98W	PA
Federal V-14-1	CMO Resources Inc.	SWSW 14 2S 2E	DA
Federal V-15-1	CMO Resources Inc.	NWSW 15 2S 2E	DA
Topliss 22-1	Aspen Operating LLC	SWSE 22 2S 2E	PM
Topliss 22-1-B27	Aspen Operating LLC	SWSE 22 2S 2E	PM
Topliss 22-1-M	Aspen Operating LLC	SWSE 22 2S 2E	PM
Kelley 23-2	Aspen Operating LLC	NENW 23 2S 2E	SI
Kelley 23-2-B	Aspen Operating LLC	NENW 23 2S 2E	PM
Eberley 23-4	Aspen Operating LLC	SENE 23 2S 2E	SI
Eberley 23-4-M	Aspen Operating LLC	SENE 23 2S 2E	PM
Whiting 23-6	Aspen Operating LLC	SESE 23 2S 2E	PM
McNeill 23-3	Aspen Operating LLC	SWNE 23 2S 2E	SI
McNeill 23-3-N	Aspen Operating LLC	SWNE 23 2S 2E	PM

Wood 23-1-H	Aspen Operating LLC	SWNW 23 2S 2E	PM
Wood 23-1-J	Aspen Operating LLC	SWNW 23 2S 2E	PM
Wood 23-1	Aspen Operating LLC	SWNW 23 2S 2E	PM

PM: Permitted (To Be Drilled)

PR: Producing

SI: Shut-In

PA: Plugged and Abandoned

DA: Drilled and Abandoned

AL: Abandoned Location (Never Drilled)

Table 3. Existing Water Wells Within 1 Mile

Permit No.	Owner	Location
182185	Fred Nelson	NESW 24 12S98W
198207	Fred Somerlot	SWSW 24 12S 98W
209011	Glenn Stanko	SENE 1 13S 97W
135115	J. Shupe	NWNW 6 13S 97W
129623	Marcus Molnar	NWNW 6 13S 97W
224473	Diane Commendador	NWNW 6 13S 97W
191902	Mark Fenske	SWNW 6 13S 97W
184742	Richard Dujay	NWNW 6 13S 97W
248724	Michael Shipp	NESW 6 13S 97W
24909	Tania Coffey	SENE 6 13S 97W
177168	Verne Stelter	NENE 6 13S 97W
147776	Whitewater Community Inc.	NENE 6 13S 97W

4. Location of Existing and/or Proposed Production Facilities

The Whitewater Field is serviced by two existing compressor facilities, and an extensive pipeline network. These facilities will continue to service the expansion of the producing areas of the field through the installation of additional pipelines.

The gas gathering lines will be buried in trenches which will run parallel and adjacent to the proposed access roads. The gas gathering lines will travel from the gas metering station on each well pad to the main gathering line set in the resource road right of way. Based on current water production from existing wells, Aspen anticipates that produced water and oil from the proposed wells will be minimal and will be tanked on site. The produced water and oil will be trucked from each site as needed.

The project map shows the location of existing facilities, and proposed production facilities and gathering lines that will support the proposed wells.

The utilities trench will be established with either a wheel trencher, or backhoe. The utilities trench will be approximately 3 feet wide and approximately 6 feet deep, with an estimated disturbance width of 25 feet. Any pipeline above-ground facility, i.e., risers, valves, etc., in the corridor, or near roads will have permanent barricade guards placed around the equipment to prevent any damage from vehicle accidents.

To ensure drainage and aid in erosion prevention, water bars will be constructed at least one foot deep on the contour, with approximately two feet of drop per 100 feet and extend into established vegetation. The waterbars will be constructed with the berm on the downhill side to

prevent the soft material from silting in the trench. The initial waterbar will be constructed at the top of the backslope.

Subsequent waterbars will be developed using the following maximum slope distance formula:

- For grades of 2% or less, the slope distance will be 200 feet;
- For grades of 2% to 4%, the slope distance will be 100 feet;
- For grades of 4% to 5%, the slope distance will be 75 feet;
- For grades of 5% and above, the slope distance will be 50 feet or as directed by the authorizing officer.

5. Location and Types of Water Supply

Aspen Operating, LLC currently has a water supply contract with the City of Grand Junction. Aspen is allowed to draw from any point within their water supply and ditch infrastructure. The two most probable locations for accessing the water supply are the water intake of the Brandon Ditch, and a tap into the water supply along Purdy Mesa Road. These two locations will serve the proposed project.

Aspen currently proposes to drill using an air and air mist/foam system, but if conventional mud drilling is used then the supply water will be transported to the drill site by truck. The water trucks will follow the access route outlined above, and will not require construction of access points, or new road construction. No other water from municipal sources, rivers, creeks or wells is planned.

6. Construction Materials

Construction materials needed include aggregate to surface the all-weather access roads, and rip-rap for water discharge aprons. Existing material will be used to build the road system. Cobble produced through grading of the road will be used to armor water crossings, water bars, and other stormwater control features. No pits will be constructed to provide the additional materials. If sections of road require road base, then the aggregate materials will be purchased from local, commercially licensed suppliers. There are numerous pits located along Highway 50 to service the demand. All of these facilities are permitted and approved by the local governments, as well as the State Engineer.

No construction materials will be taken from federal, or Indian lands. No new access roads for transporting the material will need to be constructed.

7. Methods for Handling Waste

Current planning has identified the following wastes that will need disposal: native muds and cuttings, completion fluids and cement, produced water, garbage and other solid waste material, sewage, fuel, oil and other maintenance chemicals.

Cuttings will be directed into the blooie/reserve pit. Completion fluids, if necessary, will be contained in a tank and not released to the blooie/reserve pit. The lined blooie/reserve pit will be constructed on the uphill (cut) side of the pad to prevent collection of surface runoff. Although liquid hydrocarbons should not be encountered during drilling or testing, if they are they will be confined to the blooie/reserve pit. The pit will be skimmed immediately and the substances

removed and transported to an authorized disposal facility. The pit will be fenced on three sides during drilling. The fourth side will be fenced when the well is completed, and remain fenced until backfilled.

Following conclusion of drilling and well completion operations, the cuttings in the blooie/reserve pit will be allowed to dry. When the cuttings are dry, the pit will be backfilled. No trash will be placed in the reserve pit. All other solid waste not stored in appropriate containers will also be collected for disposal. On-site trash baskets will be furnished during drilling and subsequent completing and pipeline construction periods.

Portable toilets will be provided to handle all sanitary waste during construction activities. Disposal of sanitary waste will be managed by an authorized, licensed private contractor. All other solid waste, trash or refuse will be stored in containers and proper disposal will occur at a licensed landfill.

Hazardous Materials Management

A file containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances which are used during the course of drilling, completion and production operations of this project will be maintained per 29 CFR 1910.1200 (g). Hazardous materials (substances) which may be found at the site may include cementing products which are primarily inhalation hazards, fuels (flammable and/or combustible), and other materials that may be necessary for well completion/stimulation activities, such as flammable or combustible substances and acids/gels (corrosives).

The operator and its contractors shall ensure that all use, production, storage, transport and disposal of hazardous and extremely hazardous materials associated with the drilling, completion and production of wells, and project operations will be in accordance with all applicable existing or hereafter promulgated federal, state and local government rules, regulations and guidelines. Any spills of oil, gas or grease will be mitigated immediately, as appropriate, through cleanup or removal to an authorized, licensed disposal facility.

The opportunity for *Superfund Amendments and Reauthorization Act (SARA)* listed Extremely Hazardous Substances (EHS) at the site is generally limited to proprietary treating chemicals, which are used in very limited quantities. This limited use will eliminate the potential for significant pollution issues. All hazardous, Extremely Hazardous Substances, and commercial preparations will be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.

8. Ancillary Facilities

No ancillary facilities, such as, camps, airstrips, or staging areas will be built to support the proposed activities.

9. Well Site Layout

The details associated with each well site are depicted on the well site plat. The proposed well sites have been staked and labeled with the well name and legal location. Extensive efforts were made to place the well sites in environmentally suitable areas to minimize surface disturbance,

and ensure placement in stable, non-erosive soils. Site selections were made based on BLM onsite reviews, and consultation with cultural resources, survey, environmental management, and site operations personnel.

The well pads have been designed to minimize the amount of area needed to support drilling operations. The average size for each well pad will be approximately $\frac{3}{4}$ of an acre. Unless directed by the BLM for fire safety reasons, most pads will not be cleared or graded, and no cuts or fills will be needed except for pads where slopes exceed 15 degrees. Aspen will avoid cutting or disturbing any trees present except as required for fuels management. Grasses and shrubs within the area of disturbance will not be cut. Instead, they will be flattened by driving over them with the drill rig and support vehicles. In this way, root systems will be retained, enabling plants and shrubs to recover more easily once drilling is completed.

In only a few cases will a well pad need to be conventionally constructed with cut and fill techniques. The pads requiring this technique will include specific instructions for each APD. Well pad construction will consist of removing and stockpiling a minimum of six inches of topsoil for reclamation purposes. Topsoil will be segregated from the spoils removed in developing the blooie/reserve pit.

The dimensions for the blooie/reserve pit (20' long x 20' wide x 10' deep) are calculated to ensure that the pit will adequately contain the expected volume of cuttings associated with the drilling event. Expected volumes are well known based on previous drilling events undertaken by Aspen in the project area.

Drilling equipment and support equipment will be confined to the well pad, and other authorized areas, such as, the access road to avoid additional disturbance at these sites. Each APD will include a plat depicting the layout for drilling equipment on the well pad. Drilling activities will not be undertaken if there is potential for environmental/surface damage due to unfavorable conditions, such as, saturated soil due to rain, snow, etc.

Prior to initiating drilling activities the well site location will be fenced on all sides to prevent livestock and wildlife from wandering onto the site. The fence also restricts operating activities to the well location. This will prevent unnecessary enlargement of the area of disturbance by vehicles and equipment.

Drilling and operations activities will occur on a 24-hour basis until well completion. Well completion is scheduled to occur during daylight hours and will commence within thirty days after drilling is completed. The BLM AO will be notified if the expected schedule is not maintained.

10. Reclamation Plans

Interim Reclamation

Aspen plans to minimize the need for interim reclamation by avoiding use of cuts and fills for drill pads where possible. Following completion of drilling approximately $\frac{1}{3}$ of each pad will be reclaimed leaving approximately $\frac{2}{3}$ of the original pad (0.5 acres) during the production phase. This remaining disturbance will accommodate production facilities (e.g. wellheads, storage tanks, etc.) and well service vehicles.

The BLM Authorized Officer (AO) will be notified at least 48 hours prior to commencing interim reclamation work, and within 48 hours of completion of interim reclamation work.

Following completion of drilling and completion operations waste will be removed for disposal following the plan outlined in the previous waste removal section. The pit will not be “squeezed”, “crowded”, or “cut” during backfilling. When the pit is completely backfilled, all drill cuttings and mud will be covered with at least three feet of earth. The pit will also be mounded by at least two additional feet of cover to avoid the development of depressions due to settling of the soil. The BLM AO will be contacted for guidance and direction if pit closure activities encounter any delays.

Also following completion operations, but scheduled to avoid interfering with well production activities, all disturbed areas will be reshaped and restored to original form, slope, contour, and soil density to the extent practical. Each APD will include drawings and design for the interim and final reclamation. Disturbed surfaces, such as, well pad areas or access roads no longer in use, will be scarified to a depth of one foot and the topsoil conserved for reclamation purposes will be evenly redistributed to a depth of six inches over the disturbed area. No depressions will be left to trap water or form ponds. Recontoured areas will be outsloped to avoid concentrating surface waters and producing rills.

The pipeline trench will be backfilled completely and “mounded”, and then subjected to “wheel packing”. The objective of the mounding and “wheel packing” is to allow for some settling of the backfilled material, and to minimize accelerated erosion, rilling, or possible disinterment of the pipelines.

Areas with high erosion potential will have special measures applied, as necessary, to ensure successful reclamation takes place. This will include use of erosion fabric, hydro seeding, water barring, or other such measures required by the BLM AO.

The conserved topsoil will be distributed evenly over the contoured areas. 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.

Revegetation efforts will be guided by landowner preference. If no specifications are provided by the landowner, specifications provided by BLM will be used. On BLM surface only native vegetation will be planted. Only 100% weed free seed purchased within the same year will be used to revegetate the disturbed lands in this project. Pure live seed with as high a purity as possible and recent testing of “live” will be used.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. Seed planting depths will vary between ¼ and ½ inches deep based professional guidance. The seed mixture will be evenly and infirmly planted over the disturbed area. Where drilling is not possible, seed will be broadcast and raked to cover the seed. If seed is hand broadcast, the seed mixture will be doubled in pounds per acre.

Seeding will occur as soon as possible following disturbance. The following schedule is proposed for revegetation seeding: Fall seeding will begin after September 1st and prior to ground frost, and Spring seeding will occur following ground frost thaw and prior to June 15th unless otherwise directed by the BLM AO.

Soil stockpiled for ten months, or longer will be signed and stabilized with vegetation. The stockpiles will be seeded with a sterile hybrid at a rate of ten pounds live seed per acre.

Final Reclamation

Site specific, phased, final reclamation plans will be developed and submitted for BLM review and approval via individual Notice of Intent (NOI) Sundry Notices as each facility is abandoned. Plans will include reclamation of the well site, access roads, pipelines and any other identified

disturbed areas. Reclamation activities will be initiated within ninety days of final well abandonment unless otherwise dictated by the BLM AO.

11. Surface Ownership

All proposed pads are located on Federal surface. The roads however occasionally cross fee lands. A majority of the fee lands crossed are owned by the City of Grand Junction. Two other remaining slivers of land within the proposed plan are also fee. These lands can be seen in accompanying maps enclosed in the **Appendix A**.

The proposed access road routes situated on surface resources owned by the United States of America are administered by:

Field Office Manager
Grand Junction Field Office
Bureau of Land Management
2815 H Road
Grand Junction, CO 81506-1781
Telephone: 970-244-3000

Proposed well sites and access routes situated on private land are owned by:

City of Grand Junction
City Attorney
250 North 5th Street
Grand Junction, CO 81501
Telephone: 970-244-1508

Landowner Notification

The landowner will be contacted prior to activities being conducted on privately owned lands. Surface ownership is depicted on the project map enclosed in **Appendix A**.

A surface use agreement and potential lease are being negotiated with the City at this time. Offers for lease and/or surface use have been extended to the owners. If the two fee parcels cannot be brought into the plan, alternate routes will be proposed, as necessary. A surface use agreement with each of the private land owners will be developed to insure that the requirements for the protection of surface resources and reclamation of disturbed areas and/or damages in lieu thereof are maintained. **Appendix B**, Self-Certification Statement/Surface Owner Identification form will accompany the Application for Permit to Drill.

I hereby certify that I, or someone under my direct supervision, has provided a copy of the Surface Use Plan of Operations to each of the private surface owners listed above.

Ben Miller, Regulatory Manager
Aspen Operating, LLC
2040 W. Hamilton Place
Sheridan, CO 80110
303-761-4770
ben@aspenoperating.com

Date

12. Other Information

- *Water Management Plan* – Aspen anticipates that produced water from the proposed wells will be minimal based on current water production from existing wells. The produced water will be tanked on site, and trucked from each site as needed.
- *Cultural Resources Survey* – A qualified archaeologist permitted in Colorado by the BLM conducted a cultural/historical resource inventory of the potentially affected areas, and no cultural resources were located. A cultural resources report has been filed with the BLM under a separate cover.
- *Wildlife Survey* – A BLM approved wildlife biologist has conducted a Wildlife Survey and Habitat Assessment for this project. The report has been filed with the BLM under a separate cover.
- *Noxious Weed Management* – Aspen Operating will monitor for the presence of any Colorado-listed noxious weeds at least twice annually during the growing season until final reclamation of the pad is complete. Aspen will promptly treat and control any noxious weeds. A Pesticide Use Proposal will be submitted for BLM approval prior to the use of herbicides and/or other pesticides on Federal surface.
- *Stormwater Management* – Aspen currently maintains a State of Colorado General Permit for Stormwater Discharges Associated With Construction Activity for its operations in the Whitewater area. The stormwater management plan will be updated as needed to support construction activities associated with the continuing growth in the Whitewater area. Aspen's stormwater program is currently managed by HRL Compliance Solutions, Inc.

APPENDIX A

Project Map

APPENDIX B

Self-Certification Statement – Surface Owner Identification

**SELF-CERTIFICATION STATEMENT
FROM LESSEE/OPERATOR
SURFACE OWNER IDENTIFICATION**

Federal or Indian Lease No: COC-

I hereby certify to the Authorized Officer of the Bureau of Land Management that I have reached one of the following agreements with the Surface Owner; or after failure of my good-faith effort to come to an agreement of any kind with the Surface Owner, have provided a bond and will provide evidence of service of such bond to the Surface Owner:

- 1) _____ I have a signed agreement to enter the leased lands;
- 2) _____ I have a signed waiver from the Surface Owner;
- 3) X I have entered into an agreement regarding compensation to the Surface Owner for damages for loss of crops and tangible improvements;
- 4) _____ because I have been unable to reach either 1, 2, or 3 with the Surface Owner, I have obtained a bond to cover loss of crops and damages to tangible improvements and served the surface owner with a copy of the bond.

Surface Owner Information: (if available after diligent effort)

Surface Owner Name:

Surface Owner Address:

Surface Owner Telephone:

Signed this _____ day of _____ 2008.

Ben Miller, Regulatory Manager
Aspen Operating, LLC

I (name) accept _____ do not accept _____ Aspen Operating's Surface Owner Agreement under 1, 2, or 3 above.

Signed this _____ day of _____, 200 _____

***Please See Attached Surface Use Agreement**

(Signature or Surface Owner if an agreement has been reached)

