

MASTER SURFACE USE PLAN

HOWELL PETROLEUM

**SALT CREEK
SALT CREEK SOUTH UNITS**

DECEMBER 2005

Exhibit 5.3.2

MASTER SURFACE USE PLAN
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The following explains how the guidelines are used when preparing an Application for Permit to Drill (APDs). APDs will state that all surface use will comply with applicable provisions of the Salt Creek Field Guidelines (WY)/2000 in the 13 point plan. On sundry notices, the statement is placed in Box #13 of Form 3160-5, the sundry notice form.

Project specific information (location and dimensions of roads, well pads, reserve pits etc.) is described in individual 13-point plans. In general, each bit of information is described once - on maps and exhibits rather than in the narrative.

Project Plan

Each project plan will include one or more USGS quadrangles as appropriate to display Howell's planned road construction program for the area(s) where development is occurring.

Plans will show existing and planned roads by functional classification within each quadrangle and will be prepared as needed while Howell's drilling program is being implemented. When an APD, NOS or application for a right-of-way is submitted, a copy of the Project Plan will be included to show other wells and access roads proposed in the area. Road construction plans for one or more roads may be submitted with each project plan as part of the NOS, APD or right-of-way.

Individual APDs and sundry notices include a 7 1/2 minute map from an appropriate USGS Quad Sheet. To facilitate copying, exhibits are placed on 8.5" X 11" pages (scales may be adjusted to 1"=80" if necessary). Below is a description of information included under each point of the "Thirteen Point Surface Use Plan" on individual APDs.

1. Existing Roads - Describes well access in relation to individual well and refer to guidelines for maintenance.
2. Planned Access Roads - States whether or not new road is needed, include information like length, culvert locations, steep pitches that trigger additional engineering, and other information not in the guidelines.
3. Location of Existing Wells - References guidelines.
4. Location of Existing and/or Proposed Facilities - Includes Exhibits and narrative needed to describe specific features of flowlines, power lines, on-site production facilities, etc.
5. Location and Type of Water Supply - Identifies the source and mode of transport.
6. Source of Construction Materials - References guidelines and includes non-standard information.
7. Methods for Handling Waste Disposal - Includes exhibits and narrative needed to describe specific dimensions and other information.

8. Ancillary Facilities - References guidelines and includes non-standard information.
9. Well Site Layout - References guidelines; include specific dimensions, location of center and out side stakes for the pad, topsoil and spoil areas and other pertinent features.
10. Plans for Restoration of Surface - References guidelines and includes non-standard information.
11. Surface Ownership - Describes ownership described where operations and new disturbance occur.
12. Other Information - Includes only information unique to site; other environmental information duplicates BLM's environmental assessment.
13. Lessee's or Operator's Representative and Certification - Includes normal entries required by Onshore Order No. 1 and 43 CFR 3160.

GENERAL INFORMATION

All surface operations will comply with the intent of 43 CFR 3101.1-2; 3101.1-3; 3160, Onshore Oil and Gas Orders No. 1, No. 2, No. 6, No 7, 3-A, and NTL-4A, and the BLM-USGS-USFS brochure, Surface Operating Standards for Oil and Gas Exploration and Development and current State of Wyoming standards.

These standards will guide applicable surface use for Howell's Salt Creek Oil Field in Wyoming and will be incorporated by reference into subsequent Applications for Permit to Drill (APD), Sundry Notices and other permits as the "Salt Creek Guidelines (WY)/2000". To facilitate APD approval Howell may permit pipelines, powerlines and other support facilities under separate Sundry Notices.

Any variances from these standards, employed to solve unusual or unanticipated problems, will comply with all applicable regulations, orders and standards. Safety, erosion or other environmental problems related to existing facilities will be repaired to standards described below when practical and effective under the working conditions at hand.

THIRTEEN POINT SURFACE USE PLAN

Howell will utilize an extensive road network in the Salt Creek Oil Field, some of which is shared with other road users. Planned expansion of their operations, when implemented, will result in the need for additional road construction.

Present Bureau of Land Management requirements for transportation planning and the location, design and construction of roads are intended to provide an adequate road system for development and use of natural resources. Protections of the environment and user safety are also considered in the design of the roads.

The construction of safe and environmentally acceptable roads will be one of Howell's priorities within the Salt Creek Oil Field. Howell will make every effort to provide for the safe and environmentally sound location, survey, design and construction of roads on public lands. Company personnel, the BLM and the affected counties, with the involvement of registered engineers and land surveyors, will ensure all construction meets safety and environmental requirements.

1. EXISTING ROADS

A road referred to in this Surface Use Plan as an "existing" road is one that has previously been constructed to a standard, which required a crowned traveled way and borrow, and drainage ditches (except for some roads in the fields which were built without ditches, but met BLM requirements at the time they were constructed). "Seismic trails" and existing "two-track trails" are not considered existing roads.

Existing lease roads will be maintained and kept in a good usable condition for safe vehicular traffic free of surface erosion. Culverts, ditches, water turnouts and other features will be fully functional and maintained. All re-entry (work associated with existing well bores) activities will be accessed from existing roads.

Snow will be plowed only when necessary to keep roads open for orderly operation of the field. Generally, unrestricted public access will be allowed on the lease roads, however, Howell may restrict the public and its own employees when essential to protect their safety.

2. ROAD CONSTRUCTION AND RECONSTRUCTION

A) General

Before routes are selected and road plans are prepared, Howell personnel and their surveying/engineering consultants will review the Surface Use plan and any available resource and land use data from BLM or other sources specific to the project area. A joint BLM, operator, and consultant field review will then be scheduled and conducted. Depending upon the number of roads or complexity of a single road, the joint review team will determine the most feasible access route(s) based on the resource conflicts, soils, drainage considerations, terrain and engineering standards for the type of route planned. During the field review, the degree and scope of engineering and construction control required will be specifically defined.

B) Route Location

During the joint field review, routes will be selected that avoid unnecessary resource conflicts whenever possible. The placement of the road relative to migration corridors, ridgelines, and other areas known to be used by big game animals will be considered. Routes should be located to avoid adverse effects to threatened, endangered and other plant and animal species of interest.

During the location of roads, particular attention will be given to meeting or exceeding the minimum vertical and horizontal sight distances required. Reroute locators/surveyors will also select horizontal curves to ensure that the minimum radius requirements for the planned design speed are met or exceeded.

The centerline and locations of structures will be staked, color-coded and clearly marked for all new roads, including those designed and constructed on steep or broken terrain.

C) Road Design Plans

Plans for construction of all roads will be submitted to the BLM for review and acceptance by the Zone Engineer. This review will ensure the design plans meet or exceed BLM minimum standards as presented in the guidebooks, "SURFACE OPERATING STANDARDS FOR OIL AND GAS EXPLORATION AND DEVELOPMENT". Plans for all roads will show the horizontal and vertical alignment of the road and the locations of culverts and other features. Typical sections needed to show the road template, culvert installations and other features will also be attached. Cross-sections of the roadway and other drawings for special design features will be included as needed.

All new roads and appurtenances (such as culverts, Cattleguards, fences, etc.) will be constructed to the dimensions, slopes and details shown on the attached templates, unless agreed otherwise because of conditions or circumstances (see Exhibits).

Surfacing specifications and depths shown on the attached templates may be adjusted because of local soil conditions, or graveling of roads may be waived (with BLM agreement) in instances where gravel is not available or is not considered necessary. Dust abatement mitigation within soil treatment additives will be considered on a case-by-case basis and at the annual review.

Junctions of roads will be located where site distances are adequate for safe entry and exit. All turns, including junctions, will have radii large enough to handle anticipated truck traffic for both drilling and production. Maximum grades will generally not exceed 10% except for pitch grades (i.e. road sections less than 300 feet).

When access roads have sustained maximum grades steeper than 8% on sections longer than 300 feet, or where roads cross side slopes steeper than 25%, Howell will consult with the BLM District Engineer. If he deems necessary, Howell will secure the services of a licensed professional engineer to design a safe, stable road. Vertical alignment diagram, cross sections and other engineering studies may be completed as necessary to assure sound engineering practices and proper road construction. Roads will be abandoned in accordance with Point 10.

Location, design and construction of all new roads in the Salt Creek Oil Field will be to the standards derived from BLM Manual 9113. Howell will use the road standards shown below in the Salt Creek Oil Field unless conditions dictate otherwise.

ROAD STANDARDS FOR THE SALT CREEK OIL FIELD

| DESIGN ELEMENT | FUNCTIONAL CLASSIFICATION | | |
|----------------------------------|---|------------------|---------------------|
| | <u>Resource Rd.</u> | <u>Local Rd.</u> | <u>Collector Rd</u> |
| Design Speed | 20 MPH(max) | 30 MPH | 40 MPH |
| Width (traveled way) | 14 ft with turn-outs | 20 ft. | 24 ft. |
| Width (subgrade) | 18 ft. | 24 ft.(min) | 28 ft. (min) |
| Min. Horiz. Curve Rad. | 220 ft. | 460 ft. | 820 ft. |
| Maximum Grade | 8% | 8% | 8% |
| Minimum Grade | 0.5% | 0.5% | 0.5% |
| Min. Stopping Sight Distance | 135 ft. | 225 ft. | 325 ft. |
| Min. Intersection Sight Distance | 200 ft. | 300 ft. | 400 ft. |
| Min. ROW Width Needed | 50 ft. | 55 ft. | 60 ft. |
| | (Construction on steep slopes will increase the ROW width needed) | | |
| Design Structural Loading | H-20 | H-20 | H-20 |

D) CLEARING AND GRADING

Suitable topsoil will be stripped to an average depth of six inches and stockpiled for subsequent application on the in slopes and back slopes of ditches.

E) ACCESS DURING CONSTRUCTION

Construction-related traffic will be restricted to the disturbed area needed for construction of the roadway.

F) DRAINAGE

- 1) Culverts, ditches and other drainage features will be designed to handle anticipated runoff events, i.e. 25-year event. Surface cover, slope, length of drainage, return times, channel cross sections and gradients will be considered as appropriate in the hydraulic and engineering analysis of upstream areas to determine the amount of runoff during the life of the access road. To assure proper drainage, the normal standard road will be ditched and crowned and constructed to the following specifications (See also Exhibit A):

| | |
|--|----------------|
| WIDTH OF RUNNING SURFACE | 16-18 Feet |
| DISTURBED AREA (DITCH TO DITCH) | 33 Feet |
| DEPTH OF DITCHES | 1-Foot Minimum |

A lesser standard may be used where little use occurs, but proper drainage dips will be installed as needed. (For instance a safe, stable jeep trail may be used where one trip per day is necessary in stable conditions).

On extremely steep side hills or other difficult terrain where cramped conditions make the road standard costly and create potential hazards to road users, Howell may (in consultation with the BLM) employ a different standard. In most cases a berm would be graded along the

outside edge of the road, and the road be pitched against the high-wall. Drainage will be managed in accordance with other parts of the Guidelines. If this solution results in excessive erosion or sediment loss, Howell may either modify it to fix the problem or build the road to normal standards.

- 2) Culverts will be used for all minor drainage crossings, unless debris problems, low runoff volume, or traffic volume indicate the use of drainage dips. Drainage dips will be located to provide safe stopping sight distances, constructed such as to be stable and self cleaning, and will not cause serious erosion or sedimentation, especially at the outlets (See Exhibits A&B). Drainage dips will be placed at intervals according to the following formula unless site conditions dictate otherwise:

$$\text{SPACING INTERVAL} = \frac{400'}{\text{SLOPE \%}} + 100'$$

- 3) In most cases culverts will be 18 inches in diameter. Backfill will be thoroughly compacted, and minimum cover over culverts will be 12 inches or 2 times culvert diameter, whichever is greater. In steep, broken terrain where the ditch depth, culvert cover and other design standards necessary for 18-inch culvert installation are impractical and often counter productive, Howell may employ smaller pipes (12 inch or greater diameter) in consultation with BLM District Engineer. If casing is used, flanges or other effective anchoring devices will be attached. Cover over casing may be reduced to four inches. If this accepted practice causes plugged pipes, unstable and unsafe roads or unacceptable environmental damage, it will be discontinued.
- 4) Culverts used as laterals to provide cross drainage between natural drainage will be placed as shown in Exhibit C. They will be skewed to form an entrance angle of 45 to 60 with the side ditch, and have a gradient equal to or slightly greater than the approach ditch gradient (See Exhibit AB). Suitable ditch blocks will be constructed below culvert inlets.
- 5) Culverts in drainages will be placed on firm, uniform beds, which have been shaped to accept them, aligned with the natural channel and set at a gradient that maintains the natural drainage velocity so sedimentation or erosion is not increased.
- 6) The inlets and outlets of culverts will be modified as necessary to protect from debris, and limit excessive channel scour and erosion. The modifications may include racks, cribs, raisers, drop inlets, downspout, energy dissipaters, flared ends, headwalls, and rip-rap.

G) SUBGRADE AND SURFACING

The newly constructed sub grade will be bladed and shaped as necessary to prepare a safe, stable road bed, and compacted, necessary for safety, drainage or stability.

H) Road Mixing

- a) Road mixing, of waste oil and oily sludge, will be conducted only within the unit boundary or active lease boundary.
- b) The Wyoming Oil and Gas Conservation Commission (WOGCC) will analyze Road mix material for criteria as required.
- c) Road Mix operations will be subject to WOGCC stipulations as noted in **ATTACHMENT**.

- d) An after the fact map, showing areas where road mix was applied, will be submitted after work has been completed.

D) Construction Quality Control

All roads constructed or reconstructed by Howell within the Salt Creek Oil Field Area will be built to the approved plans, and will comply with all other applicable requirements, stipulations and referenced standards. Howell's company representatives, their consultants, will monitor the construction or an independent construction inspector as required.

Any changes which may become necessary during construction will be jointly agreed to by the BLM, the designer, affected private landowners, and Howell representative before construction of the changes commences. The agreed to changes and the reasons they are necessary will be documented in writing with copies distributed to all parties.

Within five days after construction of each road is completed, it will be inspected by company personnel, the contractor who performed the construction and the BLM (at their option). This inspection will be documented on a "post Construction Inspection Record" form) see Attachments) and signed by those performing the inspection. Any work which does not comply with the approve plans will be immediately corrected by the contractor.

3. LOCATION OF EXISTING WELLS

Maps showing the location of existing wells and facilities will be submitted to the BLM.

4. LOCATION OF EXISTING AND/OR PROPOSED FACILITIES

a) Any new permanent production structures, other than wellheads and electrical devices will be painted Carlsbad Canyon - 2.5Y 6/2. The exception to these painting requirements would apply only to those portions of moving parts requiring Safety Colors.

b) Construction activity for flowlines and power lines will be restricted to a route no more than forty feet wide (20' on either side of the centerline). After construction is completed, the route will **NOT** be used as a road.

c) Surface lines may be constructed to transport product. When this occurs, Howell will take necessary measures to avoid problems such as freezing of fluids, rupture of the pipe, or other serious contingencies. Vehicular access will be limited to what is needed for placement, removal and emergency maintenance. Road construction and other dirt work is unnecessary and will not occur.

d) All permanent liquid transfer lines, on the surface for more than one year, will be buried once approval is obtained from the BLM. However, lines crossing difficult or sensitive terrain or serving facilities with expected use of less than 7 years will generally not be buried.

A. PIPELINES

1) Flagging and Staking

The centerline of the pipeline right-of-way will be surveyed and/or pin flagged prior to any surface disturbing activities. On slopes greater than 25% or on rugged terrain, slope grade, and other construction control stakes may be necessary to ensure proper construction. If stakes are disturbed, they will be replaced before proceeding with construction.

2) Construction

a) All underground steel flowlines will be coated or otherwise protected from external corrosion; will be aligned in a straight a line as possible and buried to an adequate depth to prevent freezing.

b) Where possible, clearing along the pipeline route will be limited to the topping of shrubs and grasses up to an inside width of 26 feet. Where surface conditions prohibit the safe use of construction equipment, existing grades will be modified. Where supplemental grading is needed, an average of six inches of topsoil will be windrowed along one side of the modified areas, for storage before construction begins. Topsoil will be kept separate from trench soil.

c) The unbladed portion of the 40' wide right-of-way will be utilized by trucks and other pipeline laying equipment. This portion will **NOT** be flatbladed.

d) When the trench is backfilled, it will be compacted to the approximate bulk densities of the adjacent undisturbed soils and restored to natural ground level. Windrows or crowning using the natural settlement method may be used instead of compaction. All soil windrows will be removed when reclamation is completed (i.e., discing/seeding).

e) Drainage crossings will be constructed to prevent any blocking, diversion, or restriction of the existing channel. The pipelines spanning drainage will provide adequate clearance for anticipated stream flow resulting from a 25-year storm event.

f) In areas of safety concern, no unattended or unprotected open trench will be allowed overnight without warning devices such as signs, flares, warning lights, or inspection personnel. Areas considered hazardous to people, livestock or wildlife will be fenced to reasonably prohibit entry. Warning devices such as flares, signs, flagging, barricades, lights, etc. will normally be used for unattended or unprotected open trench in areas considered hazardous to people, livestock or wildlife. The amount of ditch to be left open is dependent upon the location and circumstances surrounding the situation.

g) Any changes in product metering along the pipeline route will require prior approval from the appropriate BLM Office.

3) Operations and Maintenance

Pipeline trenches will be maintained in order to correct settlement and erosion. Water-bars and other erosion control devices will be maintained. When new construction occurs on an existing right-of-way, reasonable care will be taken protect the pipe from damage or breakage. Adequate soil cover will be retained on buried pipes to prevent freezing and breakage.

B. POWER LINES

To obtain electrical power, minimum disturbance powerlines may be constructed to well sites. A surface or buried cable (of about 100' in length) will conduct power from the last pole to the well head. A service pole may be constructed on the pad when a utility owns the powerline.

1) Construction

Dirt work will be limited to drill holes for poles and anchors, and trenching in the buried cable. Excess soil excavated from the pole and anchor holes will be spread evenly in the immediate vicinity of the pole structure or coned around the pole to allow for settling.

2) Raptor Protection

Unless otherwise agreed to by the authorized officer in writing, powerlines shall be constructed in accordance with standards outlined in "Suggested Practices for Raptor Protection on Power Lines The State of the Art in 1996 (Avian Power Line Interaction Committee)." The holder shall assume the burden and expense of proving that pole designs not shown in the above publication are "eagle safe." Such proof shall be provided by a raptor expert approved by the authorized officer. The BLM reserves the right to require modifications or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

5. LOCATION AND TYPE OF WATER SUPPLY

Drilling water will be transported by means of a temporary surface line or by truck from the nearest Water Injection well. If water is transported off unit and public land is crossed, a "short term" right-of-way will be requested. Trucking and / or temporary pipelines will follow existing access roads.

6. SOURCE OF CONSTRUCTION MATERIALS

Onsite materials will be used for building locations and roads. Because there are no infield gravel pits operated by Howell, gravel (if needed) will be obtained from sources outside the field.

7. METHODS FOR HANDLING WASTE DISPOSAL

No hazardous substances as defined by CERCLA will be used in the drilling and construction of this well site and access road. Commercial preparations, which may contain hazardous substances, may be used in production operations and will be transported within the project area. These materials, which may contain hazardous substances, will be handled in an appropriate manner to minimize potential for leaks or spill to the environment. No RCRA hazardous wastes will be generated in the well drilling operations. Exempt reserve pit contents will be buried on-site. Cuttings and drilling fluids will be disposed of in the reserve pits. Produced water and oil will be contained in steel tanks then hauled to and treated at the field battery.

A. CONVENTIONAL WELLS - RESERVE PIT CUTTINGS AND FLUIDS -

1) All reserve pits will be constructed to assure that, at reclamation, the cuttings can be covered with at least three feet of fill, and that the filled areas closely resemble natural, pre-existing contours.

2) Pits will be lined where pit failure or release of fluids creates abnormal and unacceptable environmental risk. Determinants include soil porosity, steepness and stability of slopes and potential communication between pit contents and ground water. Fabric liners will meet or exceed all necessary performance parameters (thickness, strength, impermeability, resistance to chemical and ultraviolet deterioration, etc.). They will be properly installed to prevent puncture and wind damage. Bentonite sealers will be chemically non-reactive with pit contents and will be carefully installed in sufficient thickness to prevent release of fluids.

3) Drilling fluids may be transported within the field boundary. Cuttings separated from normal, non-toxic drilling fluids will be contained in a shallow pit or on location until they dry, and then spread on the location. Reclaimed reserve pits will not be re-entered or reused without approval.

4) At least half the depth of the reserve pits will be in native cut. Where the pits are above ground level, the dike will be keyed and constructed in 8-inch lifts. Each lift will be compacted with rubber-tired equipment, a sheep's foot roller or other acceptable equipment. (Tracked vehicles generally exert insufficient pressures for adequate compaction.)

5) Following rig release, reserve pits will be fenced with either A stock tight or four strand barbed wire fence built and braced as shown in Exhibit F. Should there be oil on any pit, the oil will be removed or overhead flagging will be installed until the oil can be removed.

6) Final backfilling will comply with Point 10.

B. RE-ENTRY WELLS - CUTTINGS AND FLUIDS

1) Fluids generated as a result of "re-entry operations" will be placed in steel tanks and disposed of at approved sites.

2) Associated solids will be collected in a small "workover pit" on location and

covered with at least three feet of fill material.

C. WASTE AND SANITATION

1) Howell will comply with all State and Local laws and regulations pertaining to disposal of human and solid waste. The Salt Creek Field will be maintained in a sanitary condition at all times. Sewage from temporary construction sites will be disposed in portable chemical latrines. Garbage and other waste material will be gathered and disposed of in an approved sanitary landfill.

2) Hazardous substances specifically listed as hazardous waste or demonstrating a character of a hazardous waste (see 40 CFR Part 261 - Identification and Listing of Hazardous Wastes; and 40 CFR Part 355 - Emergency Planning Notification) will not be improperly used, produced, stored, transported or disposed of in permitted (lease, unit) operations.

8. ANCILLARY FACILITIES

Ancillary facilities will be temporary, consisting of possibly three to four trailer houses on the location for Howell's contractor personnel. No camps or airstrips will be constructed.

9. WELL SITE LAYOUT

The location of mud tanks, reserve pit, incinerator, pipe racks, living facilities, topsoil and spoil piles will be shown as on Exhibit D. No formation fracturing with volatile fluids are anticipated in normal drilling operations. However, all drill pads will be designed to comply with safety regulations for a frac using volatile fluids.

A) FLAGGING AND STAKING

Staking of the location will include two 250' directional survey reference stakes with the exterior boundaries of the pad marked with corner and centerline stakes. Pits will also be marked with corner stakes. Where drainage or rugged slopes create special problems, additional staking may be necessary to ensure construction in accordance with this Surface Use Plan. If stakes are disturbed, they will be replaced before construction is commenced.

B) CLEARING AND GRADING

1) Topsoil will not be buried under fill material. Prior to any pad or pit construction, four inches of topsoil will be removed from the location and stockpiled. Where little natural vegetation or topsoil is available, more than four inches of topsoil (not subsoil, caliche, etc.) will be removed from pockets of soil and vegetation. If possible, at least 1000 cubic yards of topsoil will be stockpiled.

2) During construction and restoration, surface use and disturbance will not extend more than 40' beyond the cut and fill slopes of the drill pad.

10. PLANS FOR RECLAMATION OF THE SURFACE

All equipment, hardware, waste or debris will be removed prior to any reclamation or stabilization actions. Linear disturbances such as newly constructed pipelines or reclaimed

pipelines or roads, will be cross drained by water bars at intervals shown in Exhibit . On short, steep grades, additional erosion control structures will be located as determined by local conditions. This practice may be altered or modified where field conditions warrant.

A) INTERIM STABILIZATION AND RECONTOURING

1) Unused areas around well pads, unused pits, flowline rights-of-way, cut and fill slopes of roads, and any other surfaces not occupied for field use, will be graded to form stable, rounded slopes, that blend with the natural terrain. Water bars or other erosion control structures will be built as needed, the areas will be ripped, the topsoil replaced, and the areas seeded as per final abandonment practices.

2) A berm at least one foot in height may be constructed around well locations to contain spills during the production phase of the well. Consider constructing a small pit with T siphon to collect any fluid evolving from the pad. Where substantial upslope runoff is anticipated, a diversion will be constructed above the berm to prevent flooding.

B) FINAL RECONTOURING AND ABANDONMENT

1. Pipelines will be purged of all fluids that will be disposed in approved field facilities.
2. Before recontouring takes place, the stockpiled topsoil and vegetative material will be scraped from cut and fill slopes of roads and pads where stable vegetation has occurred. It will be stockpiled for final distribution after the area is recontoured. The point is **NOT** to bury good topsoil that has been previously placed on pad edges or road back slopes.
3. Before well pads and battery areas are recontoured, oily surface material and cuttings (provided they are not regulated under RCRA, CERCLA, or other applicable regulations) should be worked and broken into aggregates of one inch in diameter or smaller, then treated with at least 200 lbs. of ammonium nitrate (33-0-0)/ acre, working it into the material. This should be conducted before available topsoil is spread on the surface for seedbed preparation.
4. All disturbed areas (roads, pads, flowline, etc.) will be graded to the original approximate contour. This practice may be modified in situations where an area would be far more stable in the long term if normal reclamation-recontouring practices were not followed; or where an area is stable and the costs of recontouring would prove excessive. Modifications will be undertaken in consultation with the BLM.
5. Drainage will be reclaimed to approximate the original bank configuration, stream bottom width, and channel gradient. Any pilings, debris, or other obstructions will be removed from drainage channels.

C) PIT RECLAMATION

Produced water pits, blow-down pits, emergency pits, drips, and any other pits which may contain produced fluids, will be reclaimed according to the following standards:

A. Non-sensitive Areas

- 1) 10,000 mg/kg (1%) total petroleum hydrocarbons/diesel range organics TPH/DRO)
- 2) Exchangeable sodium percentage (ESP) of 15% or less for remediated soils left on surface. If the native soil ESP is greater than 15%, no salt remediation standards apply. Salt contaminated soil buried under three feet of clean uncontaminated cover cannot exceed an electrical conductivity (EC) of 16, a sodium absorption ratio (SAR) of 61, or an exchangeable sodium percentage of 47. If native soils exhibit characteristics above these criteria, no salt remediation standards apply.
- 3) No testing for Benzene, Toluene, Ethyl benzene, or Xylene (BTEX) will be required.
- 4) A subsequent sundry notice will be submitted after work is completed.

B. Sensitive Areas

- 1) Sensitive area clean-up criteria will be based on depth to aquifers, distance to surface water, residences, water wells, public areas, soil permeability, and other hydro geological factors.
- 2) A notice of intent sundry and a subsequent sundry will be submitted for pit closures in sensitive areas.

Burn pits, reserve pits and any other pits will be filled, leveled or sloped to resemble adjacent terrain, when no longer needed. Cuttings and drilling muds will be allowed to dry, and then, all contents including liners will be covered with at least three feet of uncontaminated soils.

D) SEEDING AND SOIL AMENDMENTS

- 1) All disturbed areas (liner disturbances less than 6" in width exempted) will be seeded and fertilized with the following seed mixture or an alternative mixture approved by the Casper Field Office:

| Species | Pounds per Acre (PLS) ¹ |
|----------------------------|------------------------------------|
| Gardner saltbush | 2.31 |
| Slender wheatgrass revenue | 3.24 |
| Western wheatgrass | 4.68 |
| Sandberg bluegrass | 0.70 |
| Bottlebrush squirreltail | 2.68 |
| Alkalai sacaton | 0.15 |
| TOTAL | 13.76 |

¹PLS = pure live seed

- 2) Preparation of the seedbed, application of seed and any soil amendment, and coverage of the seed is critical to successful revegetation. Unless otherwise approved, the following cultural methods will be followed:
 - The site may be ripped or otherwise scarified up to a maximum depth of 18" on 24" centers to prepare a rough seedbed and eliminate compacted soils. The objective is to leave an extremely rough surface for maximum snow and rainfall retention, as well as ridges to protect the surface from wind erosion.

- Seed will be applied together by mechanical broadcasting to assure even coverage over the entire area to be reclaimed. The seed will be covered by harrowing, discing, or any other mechanical method of scarifying that assures seed coverage after seeding. (Note: Seeding can occur before final scarifying to leave a rough surface and provide seed coverage)
- Soil pitting, imprinting, or similar methods of seeding can be used, but must have prior approval from the AO.
- All seeded areas will be mulched with native hay, grass hay or straw that is sufficiently free of weeds to meet Natrona County noxious weed standards. It will be applied evenly at a rate of 2,000 lbs./A. Where possible, it will be anchored by means of a disc set straight at a depth of 2-3 inches, but on steep slopes, where mechanical spreaders don't work, it will be applied by hand and anchored by other suitable means.

3) Seeding will be take place in fall between the first of September and the fifteenth of October, or in spring from the time the ground is workable to the first of May. It will be repeated if a satisfactory stand is not obtained.

4) Noxious weeds will be controlled on disturbed areas in accordance with guidelines established by the EPA, BLM, State, and local pesticide authorities.

11. SURFACE OWNERSHIP

On individual Applications for Permit to Drill, Howell will identify surface ownership.

12. OTHER INFORMATION

A. FENCES

1) To ensure co-existence between land users, prior notification will be given to grazing lessees when a fence used for livestock control must be cut. The gap will be managed to prevent the passage of livestock by either placing a cattleguard (if frequent, regular passage is necessary) or constructing a wire gate. Fences will be braced and tied off before cutting to prevent slacking of the wire (See exhibit "typical design standards"). At completion of construction, the fence will be repaired to a standard as good as or better than what previously existed. In any case, previously existing management of livestock will be restored.

2) Construction and installation of cattleguards will be conducted in accordance with material and construction standards shown within the exhibit "typical design standards". They will be as wide as the running surface of the road and at least six feet along the other dimension, and will be set on timber or cast-in-place concrete basses at right angles to the roadway. Backfill around cattleguards will be thoroughly compacted. Bypass gates will be built adjacent to each cattleguard structure.

B) CULTURAL RESOURCES

Any surface disturbing activities off roads, pads, etc. (including installation of surface lines), shall have prior Cultural Resources consideration. Cultural resources will be considered pursuant to applicable law, regulation, and policy guidance existing at time of applications.

The operator is responsible for informing all persons associated with any project that they shall be subject to prosecution for damaging, altering, removing, or excavating any archaeological, historical, or vertebrate fossil objects on site. If archaeological, historical, or vertebrate fossil materials are discovered, the operator is to suspend all operations that may further disturb such materials and immediately contact the Authorized BLM Officer. Operations are not to resume until written authorization to proceed is issued by the Authorized Officer.

Within five (5) working days, the Authorized Officer will evaluate the discovery and inform the operator of actions that will be necessary to prevent loss of significant cultural or scientific values. The operator is responsible for the cost of any mitigation required by the Authorized Officer. The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that the required mitigation has been completed, the operator will be allowed to resume operations.

C) GENERAL CONDITIONS OF APPROVAL FOR APDS

1) Approval of APDs does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease that would entitle the applicant to conduct operations thereon. In addition, approval of APDs does not imply that the operator has legal access to the drilling location. When crossing private surface 43 CFR 3814 regulations must be complied with and when crossing public surface off-lease the operator must have approved rights-of-way.

2) APDs are valid for a period of one year from the date of approval or until the oil and gas lease expires/terminates, whichever occurs first. If the APD terminates, any surface disturbance created under the application must be reclaimed in accordance with the approved plan.

3) All applicable local, state and/or federal laws, regulations, and/or statutes must be complied with.

4) A complete copy of approved APDs must be at the drill site during the construction of the roads and drill pad, the drilling of the well, and the completion of the well.

5) Individual spud dates will be reported orally to the Authorized Officer 24 HOURS PRIOR TO SPUDDING, unless otherwise required in site specific conditions of approval.

6) Verbal notification shall be given to the Authorized Officer at least 24 hours in advance of formation tests, BOP tests, running and cementing casing (other than conductor casing), and drilling over lease expiration dates. Notice will also be given 24 hours prior to any construction activity approved under an APD or Sundry Notice.

7) A progress report must be filed a minimum of once a month starting with the month the well was spud and continuing until the well is completed. The report must be filed by the 25th of each month on a Sundry Notice (Form 3160-5). The report will include the spud date, casing information such as size, grade, weight, hole size, and setting depth, amount and type of cement used, top of cement, depth of cementing tools, casing test method, intervals tested, perforated, acidized, fractured and results obtained and the dates all work done.

8) The operator shall 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 limited or suspended in specific areas.

9) All survey monuments found within the area of operations shall be protected. Survey monuments include, but are not limited to: General Land Office and Bureau of Land Management Cadastral Survey Corners, reference corners, witness points, U. S. Coast and Geodetic benchmarks and triangulation stations, military control monuments, and recognizable civil (both public and private) survey monuments. In the event of obliteration or disturbance of any survey monuments, the incident shall be reported in writing to the Authorized Officer.

10) If at any time the facilities located on public lands authorized by the terms of the lease are no longer included in the lease (due to a contraction in the unit or other lease or unit boundary change) the BLM will process a change in authorization to the appropriate statute. The authorization will be subject to appropriate rental, or other financial obligation determined by the authorized officer.

11) Gas produced from newly permitted wells may not be vented or flared beyond an initial, authorized test period of 30 days or 50 MMcf following their completion, whichever first occurs, without the prior, written approval of the authorized officer. Should gas be vented or flared without approval beyond the test period authorized above, the operator may be directed to shut-in the well until the gas can be captured or approval to continue venting or flaring as uneconomic is granted, and you shall be required to compensate the lessor for that portion of the gas vented or flared without approval which is determined to have been avoidably lost.

D) CONDITIONS OF APPROVAL FOR WELL ABANDONMENT

1) This BLM Office should be notified sufficiently in advance of actual plugging work so that a representative may have an opportunity to witness the operation.

2) Holes will be plugged by the following acceptable method: balance method, two-plug method, and/or placement by dump bailer on a retainer. Other methods may be acceptable, but require prior approval of the Authorized Officer.

3) Upon completion of approved plugging, erect the regulation marker in accordance with 43CFR3162.6(b) and clean up the location. As directed by the Authorized Officer, the marker shall be below ground. The marker shall be a metal plate at least 3 inch thick and welded in place. A weep hole must be cut in the plate. Pits must be fenced unless approved otherwise by this office.

4) Within 30 days after well bore plugging operations are completed, Form 3160-5 (Subsequent Report of Abandonment) must be filed showing location of plugs, amount of cement in each, amount of casing left in hole, and status of surface restoration.

E) ROUTINE MAINTENANCE CONSIDERATIONS

1) New construction will not take place in wet and unstable soils. Routine maintenance off prepared road and pad surfaces will take place when soils are dry enough to prevent rutting or serious erosion. Unplanned construction to control spills, fires, and other undesirable events will occur at any time. Inadvertent surface damage will be fixed within a reasonable time.

2) Safety pit maintenance

3) Normal day-to-day routine operations shown below do not require written approval from the BLM:

- a) Routine maintenance of existing lease roads which does not widen or otherwise extend existing surface disturbance.
- b) Repairing or replacing existing culverts which does not require additional surface disturbance, or is limited to active stream channels and does not include terraces or cut-banks.
- c) Repair or replacement of existing pipelines which does not require additional surface disturbance outside the original right-of-way.

F) SIGNS

a. Well Signs - New well signs shall have the following information contained on them:

- 1) Well Name and Number
- 2) Name of Operator
- 3) The Lease Serial Number
- 4) The Surveyed Location
 - a) ¼ ¼ Section, Section, Township, Range (Footages are Optional)
 - b) Or other authorized survey designation acceptable to the authorized officer.
- 5) Unit or Communization Name or Number
- 6) Name of the Indian Allottee Lessor(s) proceeding the Lease Serial Number if applicable

b. Oil Storage Facilities - All facilities which store oil shall be clearly identified with a sign containing the following:

- 1) Name of the Operator

- 2) The Lease Serial Number or Communalization or Unit Agreement Identification Number, as appropriate
- 3) ¼ ¼ Section, Section, Township, Range
- 4) On Indian Leases, the sign shall also include the name of the appropriate Tribe and whether the Lease is Tribal or Allotted.

c. Well And Battery At The Same Site - For situations of one tank battery servicing one well at the same location, the sign requirements can be met with one sign as long as it includes all of the information required by both A and B above.

13. HOWELL'S REPRESENTATIVE AND CERTIFICATION

Howell's representative will sign individual Applications for Permit to Drill as required by 43 CFR 3160 and Onshore Oil and Gas Orders No. 1.

CONTACTS - BUREAU OF LAND MANAGEMENT

BLM – CASPER FIELD OFFICE

2987 Prospector Dr.
Casper, Wyoming 82604
(307) 261-7500

Patrick Moore, Assistant Field Manager, 307/261-7530

Dave Chase, Petroleum Engineer, 307/261-7685

Ken McMurrugh, Physical Scientist, - 307/261-7644

John Mesrobian, Lead Petroleum Engineering Technician, 307/261-7502

Jim Bauer, Physical Scientist, 307/261-7502

SALT CREEK OIL FIELD

POST CONSTRUCTION INSPECTION RECORD for Road Construction

Company: _____

Project Name: _____

Date: _____ Time: _____ Weather: _____

Contractor: _____

Construction
Superintendent: _____

CONSTRUCTION CHECKLIST

| <u>General</u> | YES | NO | N/A |
|---|-----|-----|-----|
| Does the project look good | ___ | ___ | ___ |
| Are sight distances to standards shown on plans? | ___ | ___ | ___ |
| Is it comfortable to drive at design speed? | ___ | ___ | ___ |
| Will drainage system take all water away from road? | ___ | ___ | ___ |
| Are curves constructed as shown on plans? | ___ | ___ | ___ |
| Has topsoil been replaced on slopes? | ___ | ___ | ___ |
| Have disturbed/work areas been rehabbed/cleaned-up? | ___ | ___ | ___ |
| <u>Roadway Template</u> | | | |
| Cut and fill slopes | ___ | ___ | ___ |
| Shoulder slopes | ___ | ___ | ___ |
| Subgrade width | ___ | ___ | ___ |
| Gravel surface width | ___ | ___ | ___ |
| Gravel surface depth | ___ | ___ | ___ |
| Borrow ditch depth | ___ | ___ | ___ |

| <u>Drainage</u> | YES | NO | N/A |
|---|------------|-----------|------------|
| Are culverts damaged or obstructed? | — | — | — |
| Are these as shown on plans? | — | — | — |
| Culvert locations | — | — | — |
| Culvert lengths and diameters | — | — | — |
| Inlet basins and ditch blocks | — | — | — |
| Wing and drain ditches | — | — | — |
| Riprap | — | — | — |
| Borrow ditch | — | — | — |
| <u>Other</u> | | | |
| Are these built or installed as designed? | — | — | — |
| Turnouts | — | — | — |
| Cattleguards | — | — | — |
| Cattleguard drainage | — | — | — |
| Fences and gates | — | — | — |
| Signs | — | — | — |
| Bridges | — | — | — |
| Low water crossings | — | — | — |
| Pipeline or utility crossings | — | — | — |
| Have shoulder, fill and/or cut slopes been flattened To allow access to sheep wagon or other “2-track” trails? | — | — | — |
| <u>Permits</u> | | | |
| Does construction of the high way approach meet All state highway department permit requirements? | — | — | — |
| Does construction of the county road intersection | | | |

Meet all county and/or permit requirements? _____

Comments or additional work needed

I have inspected this project and attest that the construction complies with the road plans, all permit requirements, the surface use plan, and the approved APD and/or right-of-way grant stipulations.

COMPANY'S REPRESENTATIVE _____
(signature and title)

I have supervised the construction of this project, and attest that all of the construction is in conformance with the plans, specifications and all other permit requirements which apply.

CONTRACTOR'S REPRESENTATIVE _____
(signature and title)

I have inspected this project, and find that it was constructed in conformance with the approved plans and all other BLM requirements and stipulations which apply.

I waive the requirement for a BLM representative to be present during the post construction inspection of this project.

BLM Representative _____
(signature and title)

Others (Specify) _____
(signature and title)

Copies to:

- Company
- Contractor
- BLM
- Other _____

DATE: _____