Eck 12-90-1 Natural Gas Well Project
SG Interests I Ltd.
Application for an Oil and Gas Permit under the
Gunnison County Temporary Oil and Gas Regulations

1) Applicant:

SG Interests I Ltd.
Catherine Dickert
Environmental and Permitting Manager
1544 Oxbow Drive, Suite 202
PO Box 26
Montrose, Colorado 81402
Phone: 970-209-6464
Fax: 970-252-0636
Email: cdickert@sginterests.com

2) Surface Ownership:

Landowner Name	**Landowner Contact**	**Project Component**
Gunnison Hunting Properties, LLC	100 Waugh Drive, Suite 400, Houston, TX 77007 Phone: 713-951-0100	Well pad, pipeline route, and access road

Gunnison Hunting Properties, LLC is an entity owned by SG Interests I, Ltd (Appendix A).

3) Mineral Owner

The minerals are owned by Gunnison Hunting Properties LLC and leased to SG Interests (see attached lease documents, Appendix B). The remainder of the parcel (outside of the lease boundary) is underlain by federal minerals. See the Site Plan Map for the boundary of the mineral ownership (section 9 below).

4) Parcel Location:

Parcel Number	**Landowner**	**Legal Description**	**Common Address**
298700000001	Gunnison Hunting Properties LLC	Lots 1, 2, 3, 4, (N2N2), S2NE4, S2NW4, tract in N2N2S2 (being 247' on east and 240' on west 28.75 +/- acres) in section 1 T12S R90W. Total 296.43 acres.	None

5) Identification of Previously Approved Uses:

There are no other previously approved uses for this parcel.

6) Characteristics and Current Condition of the Operation Location:

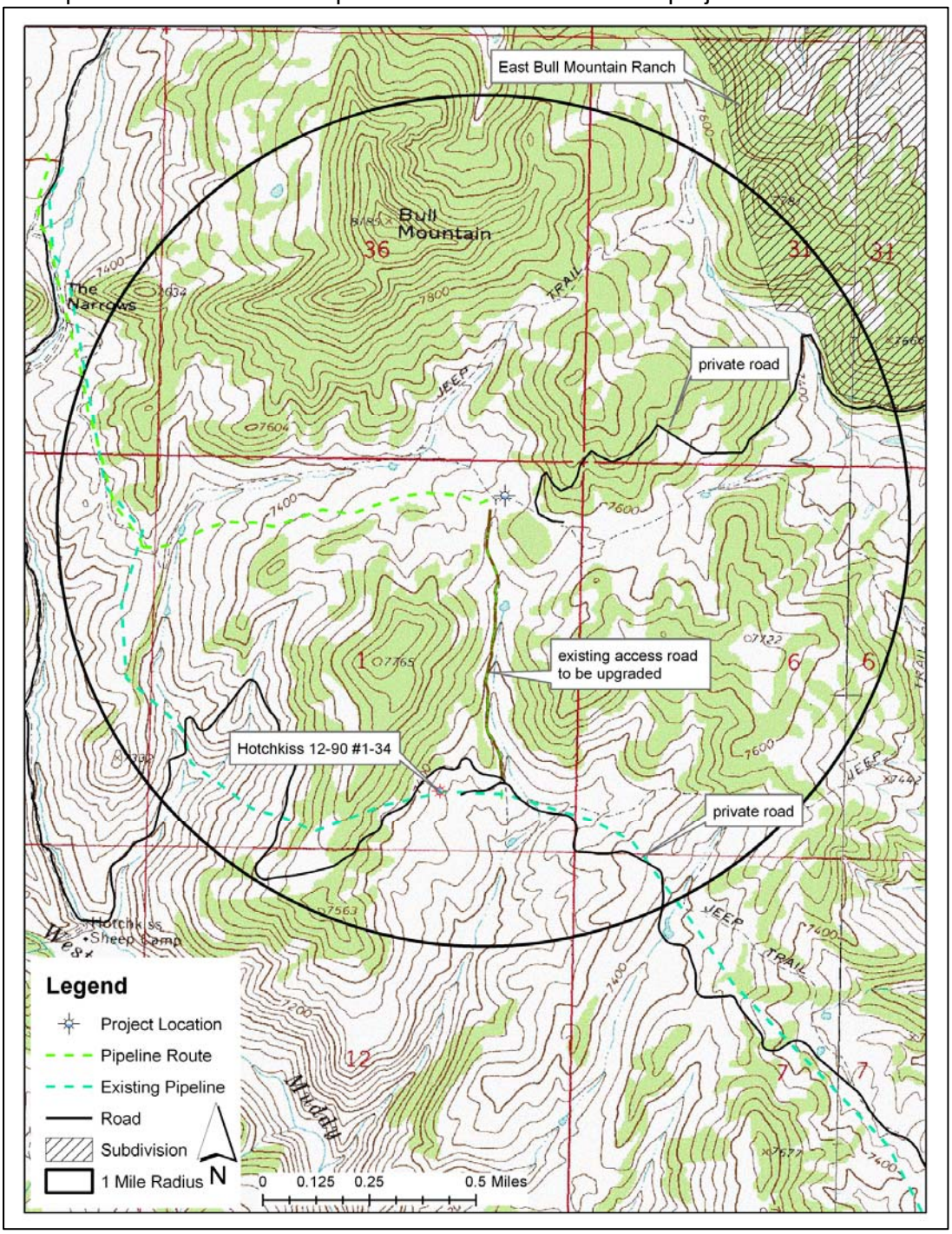
The project will be constructed in dry rangeland. There is little evidence of man-made or weather-related changes to the landscape with the exception of some two track and bladed roads on and through the parcel. There are stock ponds scattered around the landscape. The project will be located on soils mapped as Fughes loam, 15-25% slopes (USDA soil data). Vegetation in the area is composed of big sagebrush and Gambel oak shrubs with grasses and native forbs in the understory.

7) List of Adjacent Landowners

Parcel Number	Landowner	Contact Information
2919-000-00-091	THEODORE R ECK TRUSTEE, THEODORE R ECK TRUST	PO BOX 8, ORFORD, NH, 03777
2989-000-00-010 2921-000-00-027	HOTCHKISS RANCHES INC	PO BOX 479, HOTCHKISS, CO 81419
2987-000-00-002 2987-000-00-004	HUGHES NICK R	708 1250 RD, DELTA, CO, 81416

8) Vicinity Map:

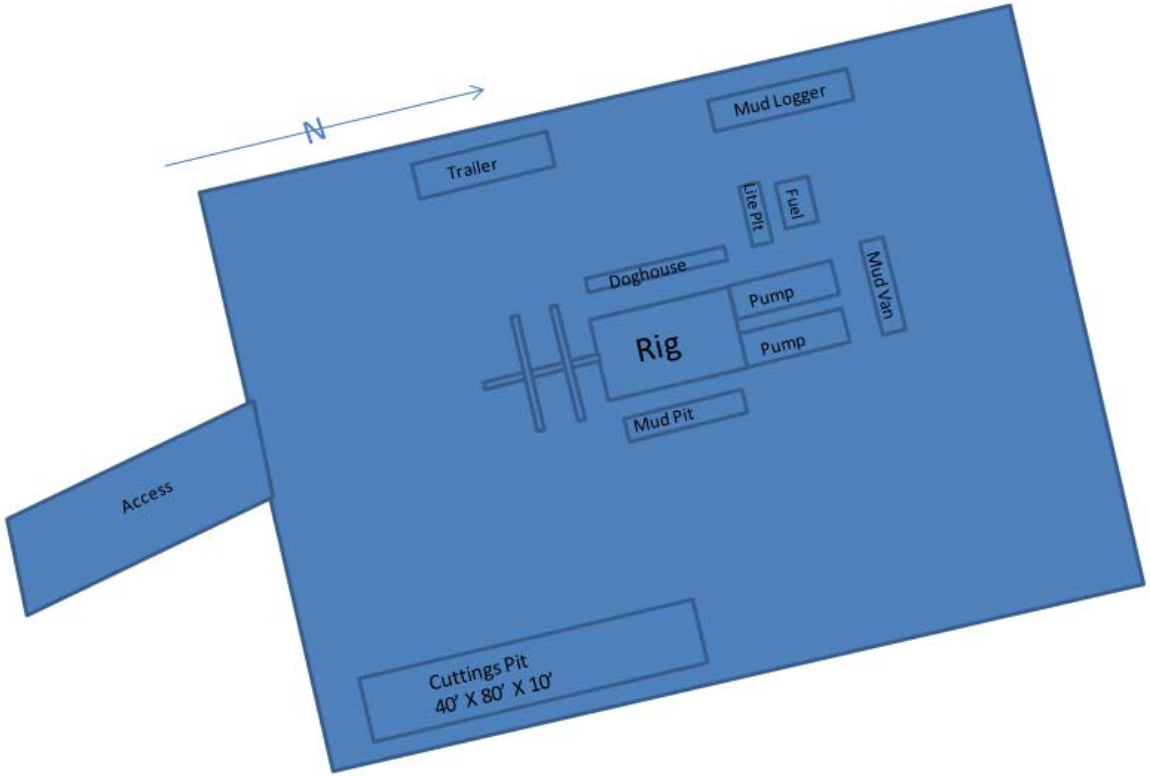
There are no special districts or municipalities within one mile of the project site.



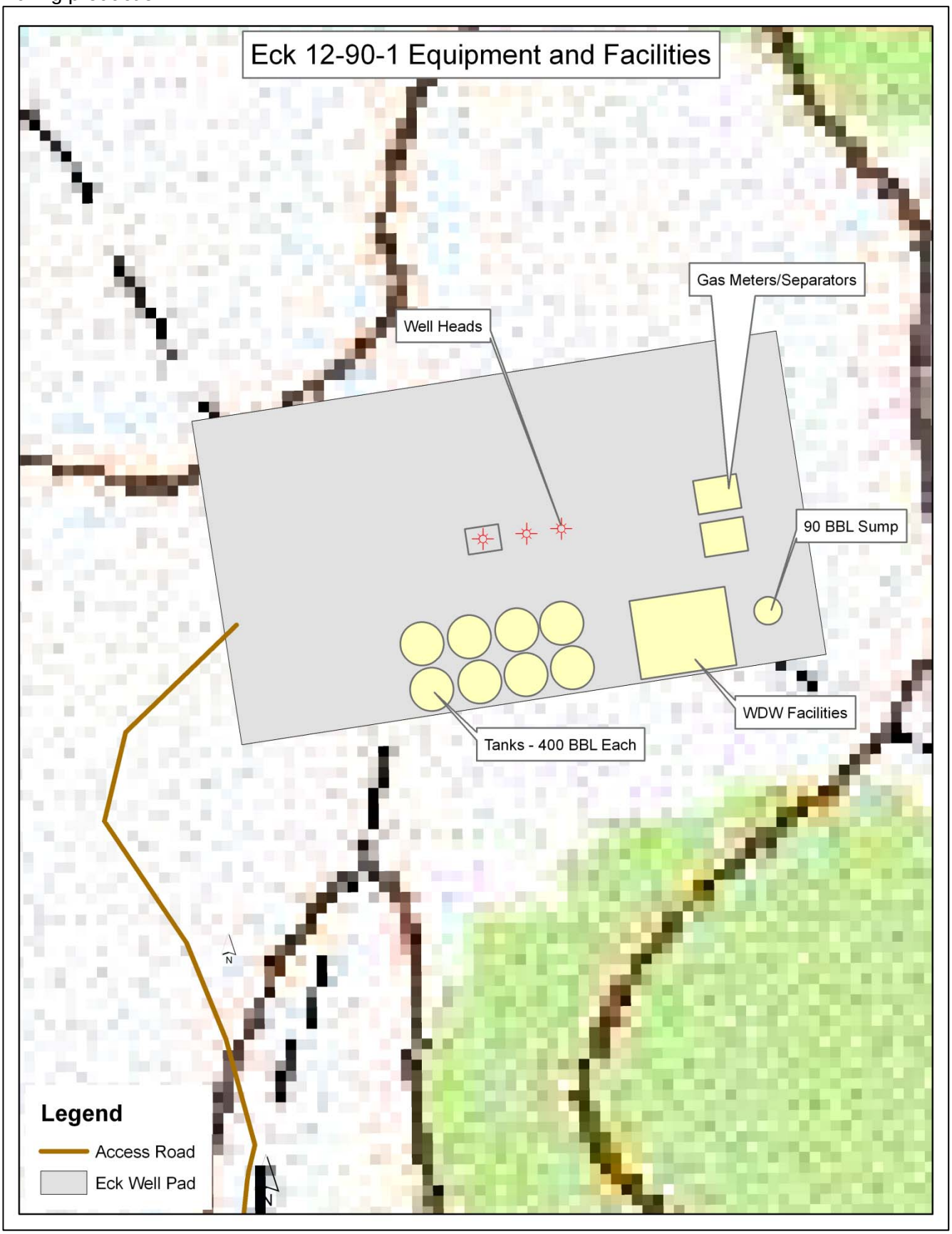
9) Site Plan Map:

Proposed facilities for the Eck 12-90-1 well project are shown on the following diagrams. The size and shape of the cuttings pit are variable and depend on site conditions. For each well drilled on this pad, the drilling rig would move approximately 15' further toward the road entrance end of the pad. Two gas wells and one water disposal well are planned to be located on the well pad. Below is a drawing of the facilities on site during the drilling of the first well.

Drilling Site Layout
Eck 12-90-1 #1

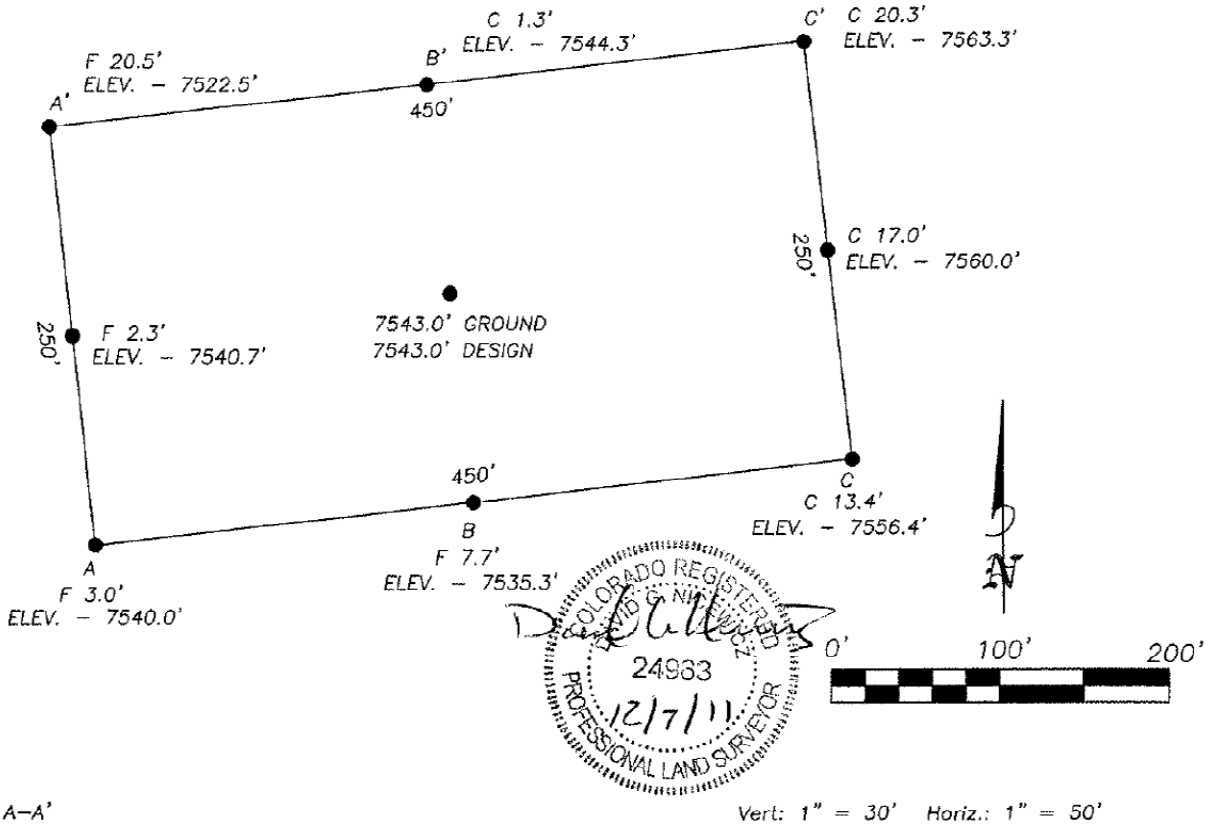


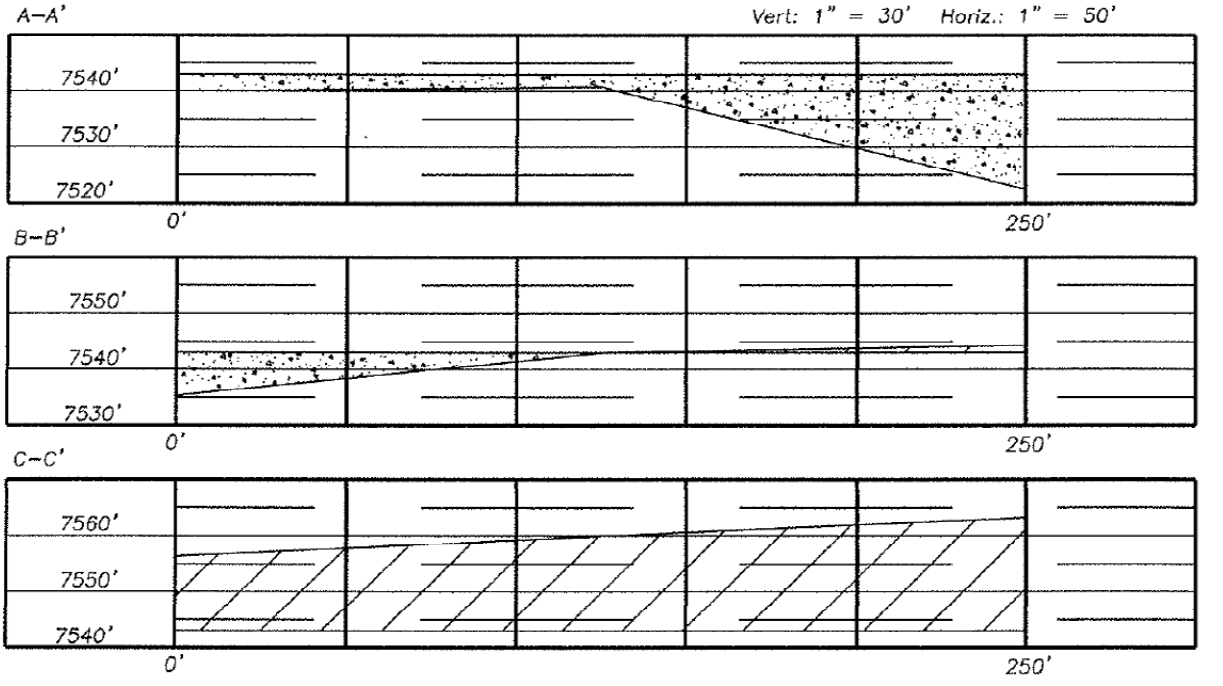
During production:



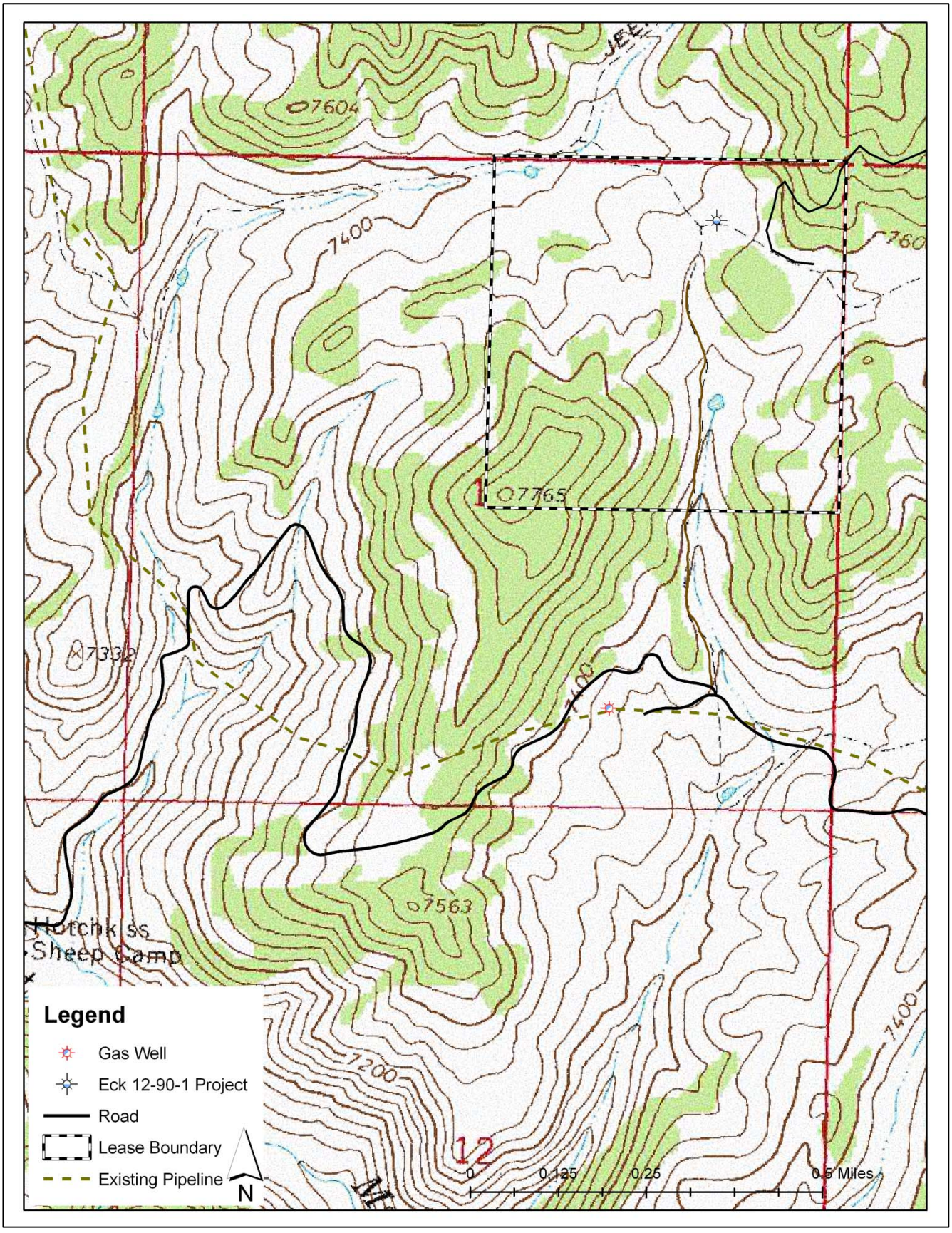
GAS WELL LOCATION

SG INTERESTS 1, LTD.
ECK 12-90-01 #1
435' FNL & 982' FEL
LOCATED IN S. 1, T. 12 S., R. 90 W., 6th P.M.
GUNNISON COUNTY, COLORADO





Site Plan Map:



10) Applications and Permits:

This project will be permitted through the Colorado Oil and Gas Conservation Commission. Approved permits will be provided to Gunnison County.

11) Operation Plan:

METHOD FOR DRILLING: The well will be drilled using a conventional rotary drilling rig operating 24 hours/day. Water, drilling mud and/or air may be used as drilling fluids. Cuttings and drilling fluids will be kept in a plastic-lined reserve pit.

METHOD FOR COMPLETION: The well will be completed using a conventional daylight rig. Hydraulic fracturing is the planned stimulation technique for this well.

METHOD FOR TRANSPORTING: If productive, gas will be transported by buried pipeline. Produced water will be trucked or transported by buried pipeline.

METHOD OF PRODUCTION: Production will be by conventional means. If artificial lift is needed, a pumping unit will likely be used.

METHOD OF POST–OPERATION: If production is non-commercial, the well will be plugged and abandoned according to COGCC regulations. The location will be reclaimed according to COGCC regulations and surface owner agreement.

PROPOSED SCHEDULE:
Below is our proposed schedule for beginning the project. The first well drilled on this pad will be a gas well.

Activity	**Approximate Start Date**	**Estimated Time to Complete**
Clear Vegetation	Assuming migratory bird nest surveys are negative – 07/01/2012 If nests or nestlings are found, vegetation clearing will occur after 07/15/2012 or later when nestlings have left the area	2 days
Construct well pad	07/16/2012 (assuming no nests or nestlings)	1 month
Drilling Operations (first well)	08/15/2012	10 days
Completion Operations	08/27/2012	10-14 days
Transporting Operations	08/28/2012	07/07/2012
Testing Operations	9/12/2012	90 days
Production Operations	10/31/2012 (or when facilities are ready for use)	
Drilling of Subsequent Wells	Unknown at this time	10-35 days depending on conditions and well type
Post-Operation	Unknown	

12) Weed Management Plan:

Please see attached management plan (Appendix C).

13) Access and Transportation Routes:

The number and types of vehicles expected to travel to the project site during drilling and completion activities for each well are listed in the tables below:

Vehicles for pad, access road, and pipeline construction:

Type of Vehicle	Weight in Pounds	Estimated Round Trips
Gravel trucks	110,000	160
Semi trucks	37,000	4 (1 round trip loaded and 1 round trip unloaded)
Pick-up trucks	6,000	40
Motor grader	40,000	1 (on semi trailer)
Dozer (2)	19,000	2 (on semi trailer)
Trackhoe	43,000	1 (on semi trailer)

Vehicles associated with drilling first well on pad:

Type of Vehicle	Weight in Pounds	Estimated Round Trips
Drilling/Completion Rig	120,000	2
Rig-Up Trucks Loaded	120,000	45 (incl. cement, frac, etc)
Rig-Up Trucks Empty	36,500	45
80 bbl water trucks loaded	54,000	40
80 bbl water trucks empty	25,000	40
Crew-cab pick ups	6,000	65

Vehicles associated with drilling each subsequent well on that pad:

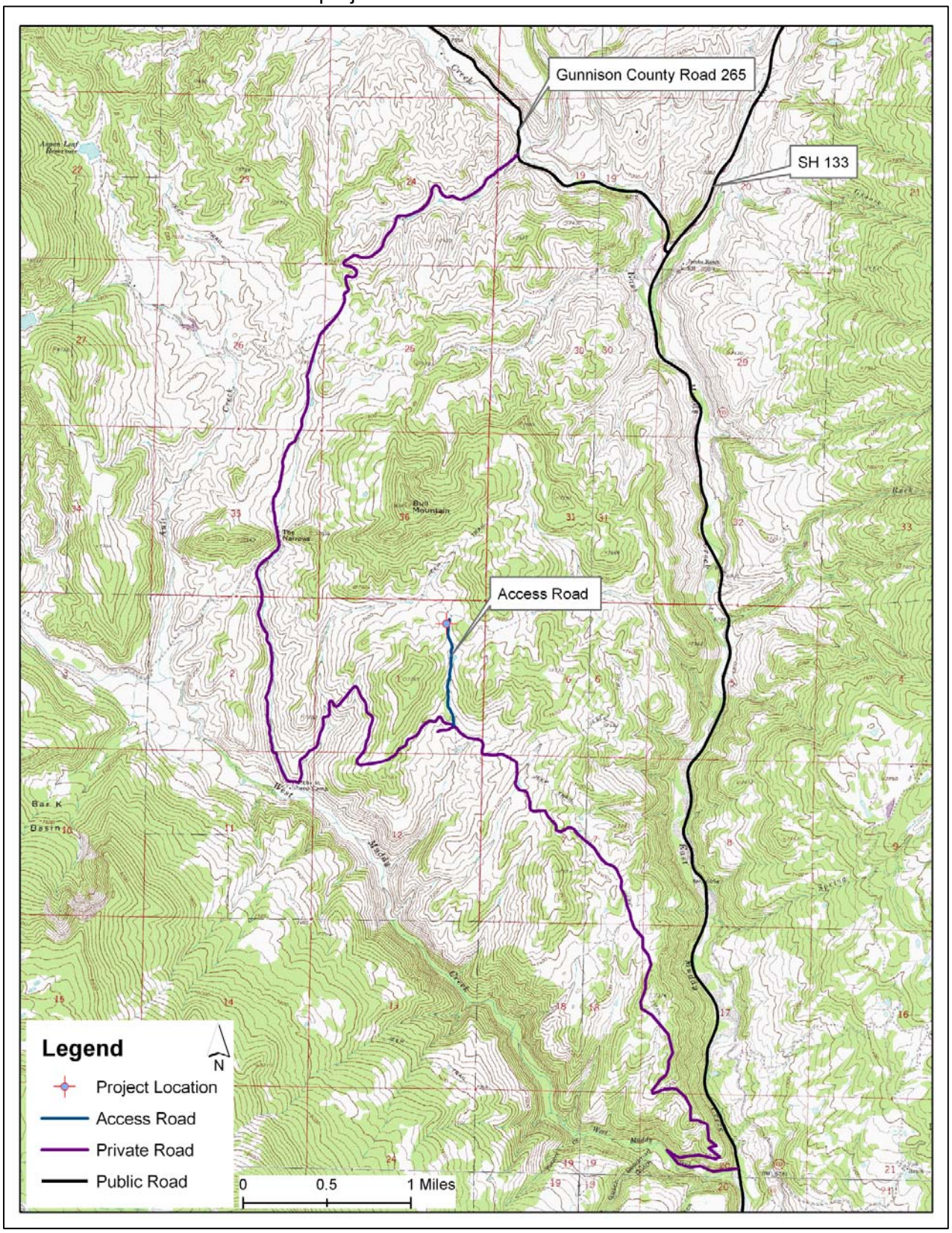
Type of Vehicle	Weight in Pounds	Estimated Round Trips
Motor Grader	50,000	2
Drilling/Completion Rig	120,000	2
Rig-Up Trucks Loaded	120,000	45 (incl. cement, frac, etc)
Rig-Up Trucks Empty	36,500	45
80 bbl water trucks loaded	54,000	45
80 bbl water trucks empty	25,000	45
Crew Cab Pick-Ups	6,000	65

Vehicles associated with well production:

Type of Vehicle	Weight in Pounds	Estimated Round Trips
Workover rig	120,000	1 round trip every two years
Haul trucks	120,000	6
Pick-up trucks	6,000-10,000	Daily throughout production period

County Road 265 is the only Gunnison County Road used to access the project site.

Access route to the Eck 12-90-1 project:



14) Identification of Water Structures

There are no irrigation ditches or other water structures in the vicinity of the project that would be impacted by the proposed construction. The project would have no impact on water rights.

15) Roadway Impact Analysis

Please see section 13, Access and Transportation Routes, above for a list of vehicles and equipment associated with this project and the predicted number of round trips that these vehicles will make over the course of drilling and completing the wells. During production, it is expected that 1 pick-up truck will visit the well site daily. Oversize/overweight load permits will be acquired as necessary from Public Works prior to use of the County Road 265. County Road 265 is the only public road under the jurisdiction of Gunnison County. Colorado Department of Transportation will issue the permits for use of State Highway 133 as needed. SG Interests, Gunnison Energy Corporation, and Gunnison County have entered into an agreement to maintain CR 265 by grading and applying magnesium chloride (LI #10-241). Gunnison County Public Works will grade the road yearly and apply the magnesium chloride as needed with reimbursement by SG Interests and Gunnison Energy Corporation. By following the terms of the agreement with Gunnison County and the stipulations attached to road use permits, SG will mitigate any potential impacts to roadways in the county.

16) Wildlife and Wildlife Habitat Analysis:

The US Fish and Wildlife Service has advised that they do not need to be involved in this process on private lands where there are no threatened or endangered species. A letter has been sent to the Colorado Division of Wildlife District Wildlife Manager, Kirk Madariaga requesting feedback on this proposal.

SG presents in this application a report written by Rocky Mountain Ecological Services that describes the types of wildlife and habitat that can be found in the project area (Appendix D).

17) Vegetation

The well pad (approximately 2 acres) will be within sagebrush vegetation. The sagebrush type is the most common vegetation type in the Bull Mountain Unit (38.7% of the mapped vegetation). The impacts to vegetation would be mitigated by seeding the areas not needed for long term operations and by controlling noxious weeds at the project site.

18) Emergency Response Plan:

Well Name Eck 12-90-1 #1 Gas Well
(Revised 02/24/2012)
NENE Section 1 T12S R90W
435' FNL and 982' FEL
Gunnison County, CO

Latitude/Longitude: 39.04817° N
-107.39072° W

Directions: From Somerset CO, travel approximately 11 miles NE on State Hwy 133. Turn left (west) onto a gated ranch road. After ½ mile, turn right (east) and continue up the private road. Travel approximately 4 2/10 miles to the well access road. Turn north (right) onto the access road and travel 7/10 mile to the project location. A vicinity map is attached.

Operator:
SG Interests I. Ltd.
P.O. Box 26
Montrose, CO 81402
Office: (970) 252-0696
Cell: (970) 259-2759

Engineer:
Dennis Romero,
Office: (713) 333-6545
Cell: (713) 301-3011

Site Supervisor:
Dennis Beasley
Cell: (505) 947-3564
Office: (970) 929-5313

Company man:
Floyd Traux
Cell: (337) 458-0535

Surface Owner:

Gunnison Hunting Properties, LLC
100 Waugh Drive, Suite 400
Houston, Texas 77007
Phone: 713-951-0100

Safety standards and practices consistent within the oil and gas industry shall be used at all times during drilling, completion, testing, and production operations. Third party contractors and companies (collectively referred to as contractors) providing services and materials in support of SG Interests I, Ltd. (SG) drilling, completion, testing, and production operations are required to have insurance coverage and a safety program in place. Contractors shall comply with and be responsible for the training and enforcement of its own safety procedures and practices which will comply with all applicable federal, state and local health, environmental and safety statutes and regulations, including, where applicable, but not limited to, those of the Department of Transportation (DOT), the Environmental Protection Agency (EPA) and the Occupational Safety and Health Administration

(OSHA). All safety apparel and equipment for contractor's personnel shall be furnished by the contractor and shall meet the standards of applicable regulatory agencies.

Communications and Emergency Reporting: A “land line” telephone generally is not available at the well site. However, it is our intent to establish a land line in the vicinity of our operations. Site communications will be provided via trucked radio service and/or a satellite telephone. Phone numbers will be provided when available. Satellite telephone communications are generally not compatible with the nationwide 911 reporting system and can result in mis-routing of emergency service requests that are initiated by a 911 call. Therefore, all requests for emergency services from satellite telephones must be dialed to the appropriate Emergency Dispatch number. Requests for emergency services from land lines or cell phones can be initiated by dialing 911. Gunnison County has "mutual aid agreements" in place with Delta County. Agencies responding to emergencies in this area will be from Delta County.

Delta County Emergency Dispatch Phone Number: 970-874-2015 or 911

Emergency and other contact phone numbers will be made available and will be posted as appropriate, depending on operations i.e. drilling, completion, testing, etc. In addition, an Emergency Preparedness form (copy attached) will be completed and sent to Rob Fiedler, Delta County Emergency Preparedness Coordinator, prior to commencement of operations. This form provides information regarding well location, directions, contact names and contact information as well as anticipated activity dates.

Emergency Reporting: Emergency phone numbers plus other contact phone numbers, location information, and directions will be made available to SG's contractors. Depending on the phase of activity, emergency response calls could be initiated by contract or SG personnel. Spills, fires, accidents, etc. will be reported to emergency agencies and regulatory authorities. All valves, tanks, lines, etc. will be secured any time facilities are unattended. Pits will be fenced.

Reference Colorado Oil and Gas Conservation Commission (COGCC) web site at http://oil-gas.state.co.us for Rules and Regulations. 600 Series Safety Regulations (606A Fire Prevention and Protection). These Rules and Regulations will be strictly followed and enforced on all SG Interests I, Ltd operations. BLM fire restrictions can be viewed online at: www.co.blm.gov/fire (Fire Bans/ Restrictions & Closures). This site also provides links to

1) The Colorado Office of Emergency Management and lists counties with fire restrictions and
2) The Colorado State Forest Service which supplies large fire status and other information.

Fire Prevention and Protection: COGCC Rules and Regulations as detailed in 606A will be strictly followed and enforced. Typically, 4-6 50# fire extinguishers will be suitably located, readily accessible, and plainly labeled as to their type and method of operation. Additional fire extinguishers will be made available if circumstances dictate. The rig fresh water system, pumps and hoses are also available for fire fighting in the rig area. If required, or deemed necessary, additional fire-fighting equipment will be kept on location during operations. This equipment may consist of a 400 bbl tank filled with fresh water, a pump and 300' of hose. Personnel on location will be indoctrinated as to proper use and safety. In the event that extreme fire danger exits due to drought or other reasons, SG will curtail or suspend operations as directed by authorities.

In the unlikely event that gas is escaping from the well during drill operations, it will be conducted a safe distance from the well and burned. Delta County Emergency Dispatch will be notified of any such flaring. Such notice shall be given prior to the flaring if the flaring can be reasonably anticipated, and in all other cases as soon as possible but in no event more than two (2) hours after the flaring occurs. (COGCC Rules and Regulations 317 (l)).

In the extremely unlikely event of a well fire (a fire that includes a discharge of flammable gas and/or liquid from the wellbore) or explosion, all personnel will gather at a predetermined safe briefing area. A head count will be taken and all personnel will be accounted for. The situation will be accessed with

immediate response and emergency calls as needed. An employee or other representative will be sent to the nearest county road access to keep unauthorized persons from entering the location and to direct emergency response personnel to the site. Emergency response personnel should not attempt to extinguish the fire since special resources may be required to completely contain the fire and discharge and to prevent re-ignition. In these circumstances, SG's site supervisor will determine if any fire containment or flow cooling efforts might be appropriate in the interim.

The location and operation of block valves and shut-in procedures will be made available to appropriate personnel prior to any pipeline tie-in installation. If warranted, existing pipelines will be shut-in and depressurized prior to and during operations.

Hydrogen Sulfide gas (H2S), also known as "sour gas", is not known to exist in this geographic area nor in any of the formations that will be encountered in this wellbore. Contingency planning for drilling in sour gas areas and formations is very specific and requires specialized training, certification, equipment and programs and does not apply to operations in this area. However, should H2S be encountered, trained and certified personnel, equipment and procedures would immediately be put in place to insure that all personnel and property would be protected.

SG Interests I, Ltd. will maintain first aid kits in its vehicles and site offices. Contractors maintain first aid kits in their vehicles and site facilities appropriate to their operations and in conformance with their internal policies. Site personnel with current training in first aid will be identified as such by hard hat markings or other means.

Hazardous Spills: All hazardous materials (reactive, flammable, corrosive and toxic) will be clearly labeled and stored in appropriate containers and within secondary containment. In the event fuel or lubricants are spilled, absorbent materials will be kept on location for immediate clean up. Service company vehicles carrying hazardous materials and performing work on the location, set secondary containment and provide absorbent materials for the immediate clean of such materials in the event of an accident or spill. Disposal of any such materials will be in compliance with COGCC Rules and Regulations as well as Federal and local requirements. In the event of an accident or spill off location, appropriate agencies would be notified including Emergency Dispatch, Colorado State Patrol, Fire Department, Hazardous Material Team (DERA), and any others deemed necessary (EPA, Division of Wildlife, USFS, etc.) by the circumstances of the accident/spill. Should spills or releases occur, they will be reported per COGCC Rules and Regulations 337 and 906 and as otherwise required. SG Interests I, Ltd has filed required SARA Title III reports with the Colorado Emergency Planning Commission, Colorado Department of Public Health & Environment, Denver, Colorado and with Region 10 Emergency Planning Committee, Gunnison, Colorado. MSDS (Material Safety Data Sheets) will be available on location as required.

Signage: A permanent sign will be posted at the well site. This sign will provide the name of the well, location, operator, and phone number on one side with driving directions on the other side. Signs will also be located as needed to provide direction to the well site during drilling and completion operations.

SG Interests I, Ltd. will reimburse emergency response service providers for costs incurred in connection with an emergency as required.

EMERGENCY PHONE NUMBERS

DELTA COUNTY EMERGENCY DISPATCH (970) 874-2015

Delta County Emergency Preparedness	(970) 874-2004 - office	Delta
Director & Coordinator, Rob Fiedler	(970) 255-7349	
Montrose Interagency Fire Dispatch	(970) 249-1010	Montrose
Gunnison County Emergency Dispatch	(970) 641-8000	Gunnison

FIRE

Cedaredge Fire Department	(970) 856-3717	Cedaredge
Hotchkiss Fire Department	(970) 872-3311	Hotchkiss
Paonia Fire Department	(970) 527-5775	Paonia
Ragged Mountain Fire Protection	(970) 929-5646	Somerset

AMBULANCE

North Fork Valley Ambulance Association	(970) 872-4303	Hotchkiss
Delta County Ambulance	(970) 874-9555	Delta
American Medical Response	(970) 242-2920	Grand Junction
Air Life @ St. Mary's Hospital	(970) 244-2551 (800) 332-4923	Grand Junction

HOSPITAL

Delta County Memorial Hospital	(970) 874-7681	Delta
Delta County Memorial Hospital - ER	(970) 874-2222	Delta
Grand Junction Community	(970) 242-0920	Grand Junction
Montrose Memorial	(970) 249-2211	Montrose
North Fork Medical Clinic	(970) 527-4103 (970) 872-3121	Paonia Hotchkiss
Gunnison Valley Hospital	(970) 641-2695	Gunnison
St. Mary's Hospital	(970) 244-2273	Grand Junction

POLICE

State Hwy Patrol	(970) 249-4392	Montrose
Delta Co. Sheriff	(970) 874-2000	Delta
Gunnison Co. Sheriff	(970) 641-1113	Gunnison

GOVERNING AGENCIES

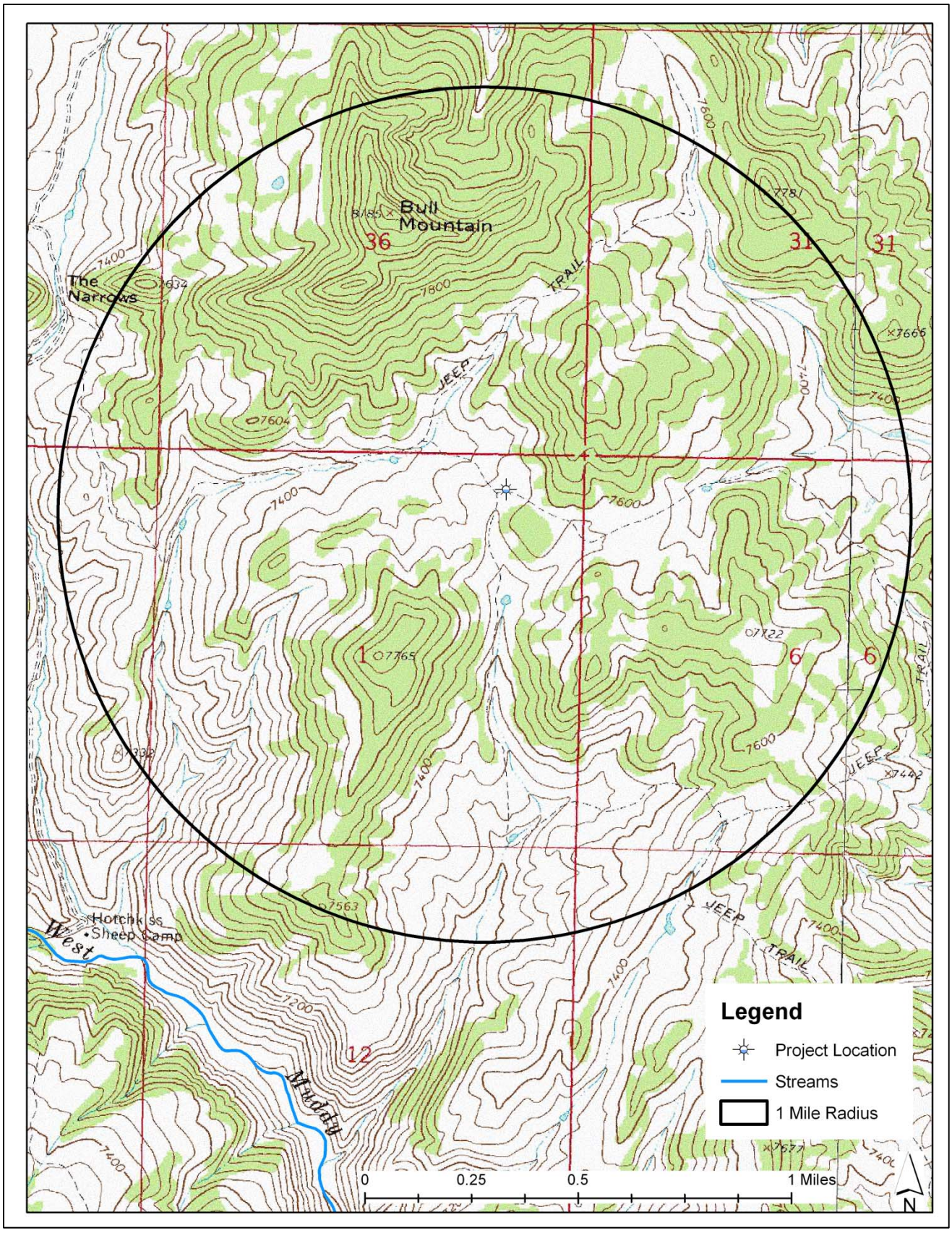
COGCC, David Neslin, Director	(303) 860-1435 (24 hour) (303) 894-2100 ext 5122	Denver
COGCC, Linda Spry O'Rourke, Environmental Protection Specialist	(970) 625-2497	Rifle
Bureau of Land Management, SW District Office	(970) 240-5300	Montrose
Forest Service, Levi Broyles, District Ranger	(970) 527-4131	Paonia
Pitt Construction, Spill Contractor	(970) 872-3536 (970) 260-2275	Hotchkiss

SG Interests

SG Interests Office	(970) 252-0696	Montrose
Dennis Beasley, Field Superintendant	(505) 947-3564	Cell
Eric Sanford	(970) 259-2759	Cell
24 Hour Emergency	(866) 261-9766	

19) Water Quality Non-point Source Impacts

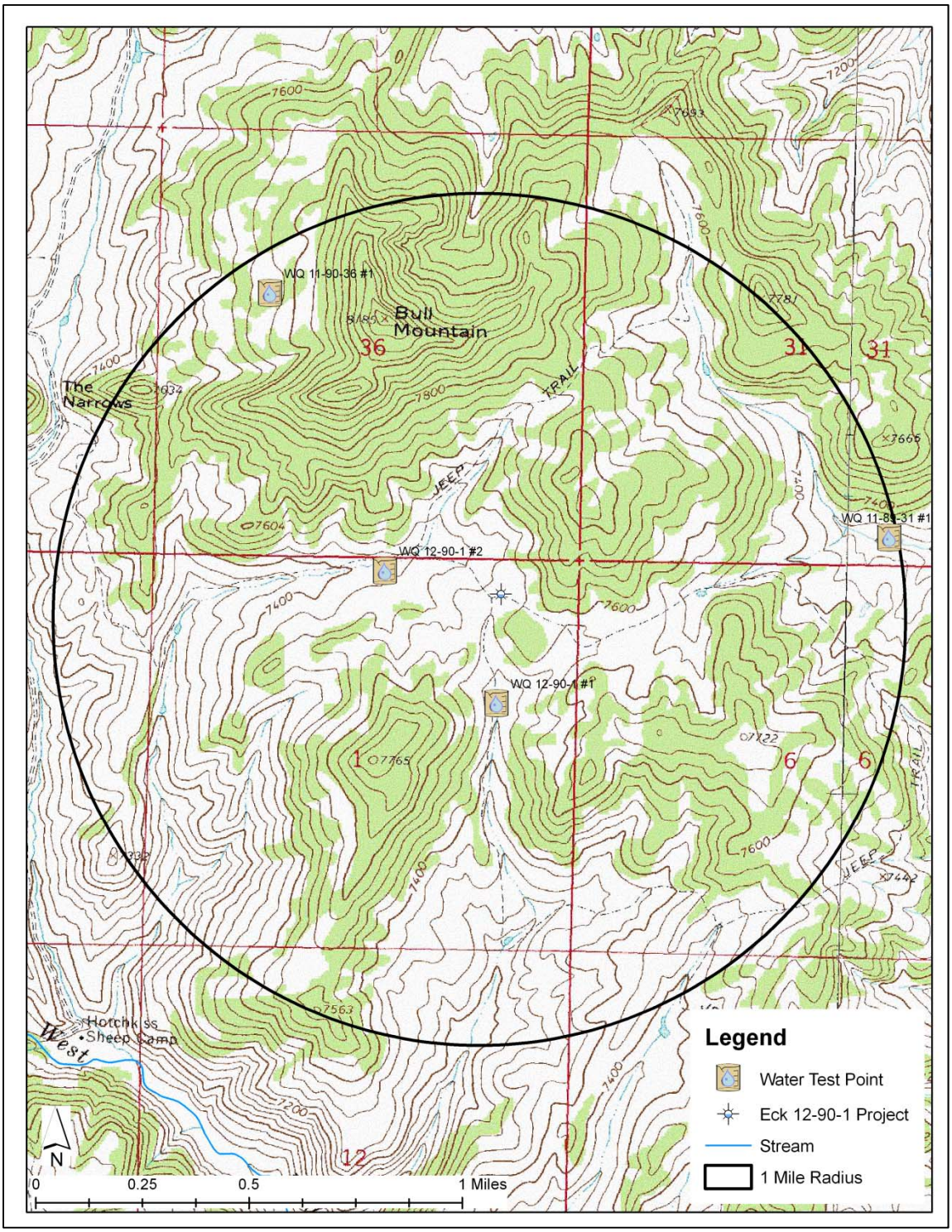
a) Identification of All Water Bodies



b) Description of Existing Water Quality

Four surface waters within the 1-mile radius were sampled for baseline water quality. These results indicate the water is alkaline (at the WQ 11-89-31 #1 site) with higher than standard pH (at WQ 12-90-1 #1 and WQ 12-90-1 #2). High pH is found in water samples taken throughout the Muddy Creek Basin. The values found in this baseline assessment are in line with previous findings. No other water quality standards were exceeded. The next water sampling date for this area is scheduled for fall 2012. Summary tables that contain these water quality test results are contained in Appendix E.

Water Quality Sampling Sites Within 1 Mile of this Project:



c) Non-Point Source Impacts to Water Quality

Non-point source pollution could result from construction of the well pad, use of the access road, and use of other existing roads. This pollution would be the result of erosion of disturbed soils and sedimentation of area water bodies.

d) Mitigation and Avoidance.

When practicable, SG Interests will try to avoid drilling under wet winter and early spring conditions in order to avoid erosion and sedimentation concerns. This will minimize the risk of muddy roads and transportation of mud on vehicles, disturbance to vegetation root systems due to saturated soils, soil compaction, homogenization of soil pedons and soil profiles etc.

SG has and will continue to improve, armor, and maintain roads to withstand heavy truck traffic in order to protect water quality. Use of roadbase (as opposed to silty native soils), soil tackifiers, and wetting agents combined with compaction produce a durable roadbase which will produce much less fine sediment when compared to existing unimproved roads.

SG Interests will conduct stormwater management activities according to their field-wide stormwater management plan and permit from Colorado Department of Public Health and Environment. SG Interests' stormwater inspector inspects BMPs and waterways following storms to improve and mitigate possible failure of BMPs. SG routinely "cleans up" mobilized sediments after intense storm events until revegetation is successful.

20) Cultural Survey

No cultural resource survey was conducted for this project (Appendix F).

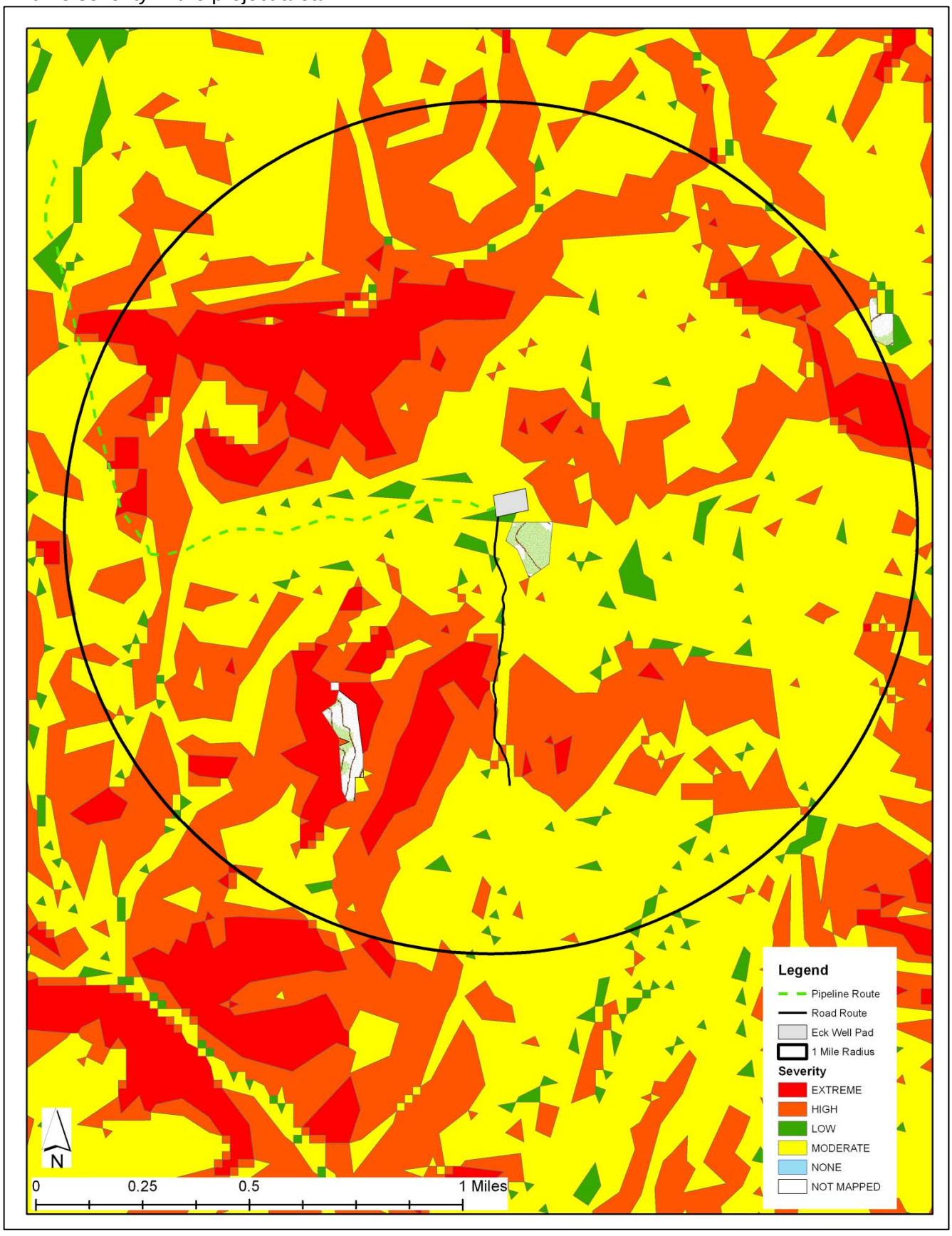
21) Drainage and Erosion Control Plan

SG Interests has in place a stormwater discharge permit from Colorado Department of Public Health and Environment (#COR-039711, provided previously). A Stormwater Management Plan has been written for this permit and site specific drainage and erosion control measures will be added into the master plan for the Eck 12-90-1 #1 well. The drainage and erosion control measures put in place to stabilize the well pad and access road will be maintained.

22) Wildfire Hazards

The planned gas well project is located in an area mapped as "low" and "moderate" severity for wildfire. The existing access road and pipeline route passes through areas mapped as "low", "moderate", "high" and "severe". If flaring is required for this well, areas around the flare will be cleared of all vegetation to reduce fire danger. If required or deemed necessary due to dry conditions, separate firefighting equipment consisting of 400 bbls of fresh water, a high pressure pump, and 300' of fire hose will be kept in the immediate vicinity. See the Fire Prevention and Protection section in the Emergency Response Plan above for more detail (Item 18). See the map below for location of the project relative to mapped wild fire hazards in the area.

Wildfire severity in the project area:



23) Geologic Hazards

The subject area has not been mapped for geologic hazards by either Gunnison County or the USDA Forest Service. No geologic hazards are known from this project area.

24) Existing and Future Land Use

The parcel is currently used for livestock grazing and for natural gas development. The future use of this parcel, as far as can be determined, is as a working livestock ranch. At the conclusion of the well pad's use, all areas disturbed for use in gas production will be recontoured and reclaimed as per the requirements of the Surface Use Agreement and/or landowner direction.

25) Technical Infeasibility Waiver

The existing two-track access road will be upgraded in order to support the required traffic. The access road does not cross wetlands or directly impact them, but approximately 2,000' of the access road does pass within 500' of mapped wetlands. The pipeline route will cross wetland areas that exist between the well and the gathering system pipeline. The well pad will be located approximately 390' from a wetland to the northwest of the pad. SG found it necessary to locate the pad within 500' of this wetland in order to construct a pad where the center was on cut soils. For safety reasons, the drill rig must be located on cut soil rather than fill soil.

Waterbody setbacks are regulated by the Colorado Oil and Gas Conservation Commission, and thus Gunnison County is preempted from regulating setbacks of oil and gas locations from waterbodies in a manner more restrictive than the state. Without waiver of any legal right or acknowledgment of Gunnison County's authority to regulate waterbody setbacks for oil and gas operations in a manner more restrictive than the state, SG submits a request for a Technical Infeasibility Waiver under Gunnison County Temporary Regulations for Oil and Gas Operations, Section 1-107 (P)(2).

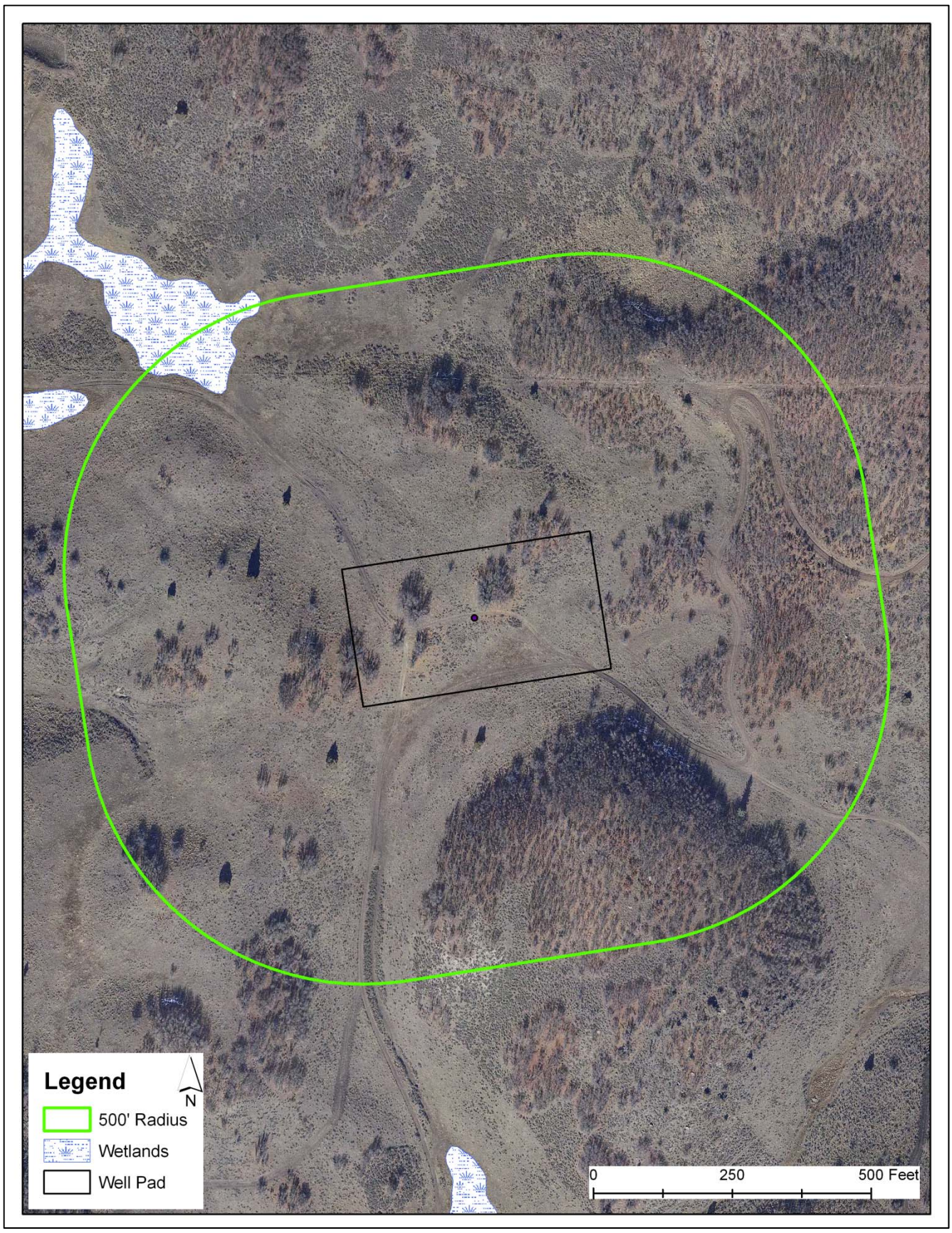
Thus, in the alternative and without waiver of legal rights, SG Interests requests a waiver from Gunnison County Temporary Regulations for Oil and Gas Operations 1-107 H Waterbody Setbacks under Section 1-107 (P)(2), No Technology Available. There is no economical technology commercially available to deliver the natural gas or the produced water to the gathering system pipelines other than through the use of the planned pipelines and access road and local topography prevents SG from locating the well pad further from wetlands and simultaneously protecting the safety of drilling employees while the rig is operating. A waiver under Gunnison County Temporary Regulations for Oil and Gas Operations, Section 1-107 (P)(2), will not cause injury or damage to the owner or occupant of adjacent land(s) or to the environment.

Revised) Technical Infeasibility Waiver (Eck 12-90-1 Project)

The existing two-track access road will be upgraded in order to support the required traffic. The access road does not cross wetlands or directly impact them, but approximately 2,000' of the access road does pass within 500' of mapped wetlands. The pipeline route will cross wetland areas that exist between the well and the gathering system pipeline. The well pad will be located approximately 390' from a wetland to the northwest of the pad. SG found it necessary to locate the pad at this location and within 500' of this wetland in order to construct a pad where the center was on cut soils. For safety reasons, the drill rig must be located on cut soil rather than fill soil.

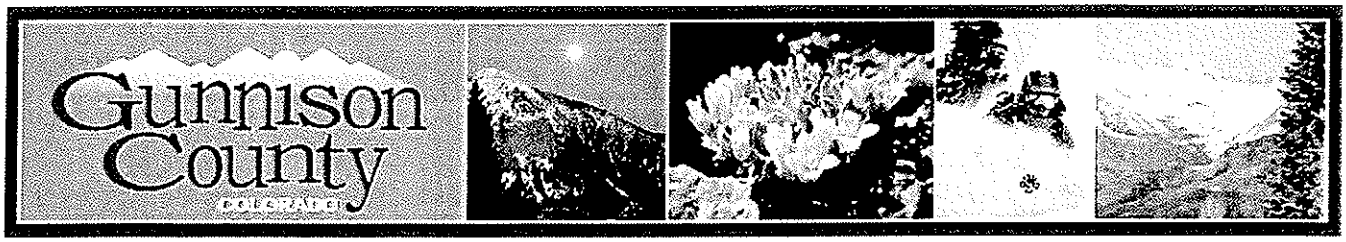
Waterbody setbacks are regulated by the Colorado Oil and Gas Conservation Commission, and thus Gunnison County is preempted from regulating setbacks of oil and gas locations from waterbodies in a manner more restrictive than the state. Without waiver of any legal right or acknowledgment of Gunnison County's authority to regulate waterbody setbacks for oil and gas operations in a manner more restrictive than the state, SG submits a request for a Technical Infeasibility Waiver under Gunnison County Temporary Regulations for Oil and Gas Operations, Section 1-107 (P)(2).

Thus, in the alternative and without waiver of legal rights, SG Interests requests a waiver from Gunnison County Temporary Regulations for Oil and Gas Operations 1-107 H Waterbody Setbacks under Section 1-107 (P)(2), No Technology Available. There is no economical technology commercially available to deliver the natural gas or the produced water to the gathering system pipelines other than through the use of the planned pipelines and access road and local topography prevents SG from locating the well pad further from wetlands and simultaneously protecting the safety of drilling employees while the rig is operating. SG has located the well pad so that the center of the pad is on cut soils. It is necessary to have the pad center on cut soils in order to support the 120,000 pound drill rig that will be used to drill shale wells on this pad. Lightweight drill rigs that could be safely operated on fill soils are not commercially available to drill this type of well. A waiver under Gunnison County Temporary Regulations for Oil and Gas Operations, Section 1-107 (P)(2), will not cause injury or damage to the owner or occupant of adjacent land(s) or to the environment.


Legend
N
500' Radius
Wetlands
Well Pad
0
250
500 Feet

Appendix A

Landowner Documents



Previous Parcel | Next Parcel | Gunnison Home

Owner and Parcel Information

Owner Name	GUNNISON HUNTING PROPERTIES LLC	Today's Date	December 29, 2011
Mailing Address	PO BOX 1487	Parcel Number	2987-000-00-001
	MONTROSE, CO 81402-1487	Account Number	R031838
Location Address		Mill Levy	40.286
Account Type	Agricultural	Tax District	703
Neighborhood		Business Name	
Subdivision		Acres	296.43
Econmic Area	Econ Area 8	LEA	
Zoning	NONE	Parcel Map	Show Parcel Map
Legal Description	LOTS 1,2,3,4,(N2N2)(107.68A). S2NE4. S2NW4. TRT IN N2N2S2 (BEING 247' ON EAST & 240' ON WEST 28.75 +- AC) SEC 1 12S90W TOTAL 296.43A #606783	Building Photos	NA
Parcel Notes	TOTAL 296.43 AC AGREEMENT REGARDING FURTHER SUBDIVISION #606781 RECORDED JULY 18 2011 ROAD MAINTENANCE AGREEMENT #606782 RECORDED JULY 18 2011		

Generate Neighboring Owner List by Distance

Current Year Assessment Information

Land Value	Building Value	Total Value	Assessed Value
$ 11,380		$ 11,380	$ 3,300

Prior Year Assessment Information

Year	Actual Value	Assessed Value	Mill Levy	Ad Valorem Taxes
2010	$ 11,550	$ 3,350	40.286	$ 134.96
2009	$ 11,550	$ 3,350	39.605	$ 132.68
2008	$ 10,910	$ 3,160	41.651	$ 131.60
2007	$ 10,910	$ 3,160	41.341	$ 130.64
2006	$ 10,350	$ 3,000	46.658	$ 139.96

Contact the Treasurer's Office for current property tax amount due. Do not use the figures above to pay outstanding property taxes.

Land Information

Description	Acres	Land Type	Site Access	Electricity	Sewer	Water
GRAZING LAND-AGRICULTURAL	296.43	SAGE	YEAR ROUND	NO	NONE	NONE

Sales Information

Sale Date	Type of Document	Reception	Vacant or Improved	Grantor Name	Grantee Name	Amount
2011-07-14	WARRANTY DEED - FEE	606783	Vacant	ECK THEODORE R TRUST	GUNNISON HUNTING PROPERTIES LLC	$ 450,000
2008-08-22	QUIT CLAIM DEED - NO FEE	586128		ECK THEODORE R	ECK THEODORE R TRUST	
1996-12-19	GEN WARR DEED - FEE	B472803P-2	Vacant	Unknown	Unknown	$ 221,392
1995-12-06	WARRANTY DEED - FEE	B000774P000900-1	Vacant	Unknown	Unknown	$ 200,000

Improvement Information

No improvement information associated with this parcel

Building Sketch

NA

Previous Parcel | Next Parcel | Gunnison Home

Colorado
Secretary of State, Scott Gessler
Business Division

For this Record...
History & Documents
Cert of Good Standing
File a Document
Subscribe Email Notification
Unsubscribe Email Notification

Business Home
Business Information
Business Search

FAQs, Glossary and Information

Summary

ID Number:	20111177283
Name:	Gunnison Hunting Properties, LLC
Registered Agent:	The Corporation Company
Registered Agent Street Address:	1675 Broadway, Suite 1200, Denver, CO 80202, United States
Registered Agent Mailing Address:	
Principal Street Address:	100 Waugh Dr, Suite 400, Houston, TX 77007, United States
Principal Mailing Address:	
Status:	Good Standing
Form:	Limited Liability Company
Jurisdiction:	Colorado
Formation Date:	03/24/2011
Term of Duration:	Perpetual
Periodic Report Month:	March

Applicant is landowner.

You may:

- View History and Documents
- Obtain Certificate of Good Standing
- File a Document
- Subscribe to E-mail Notification Regarding this Record
- Unsubscribe from E-mail Notification Regarding this Record

Previous Page

Appendix B

Lease Documents

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390325

C0327-1/1

BOOK 489 PAGE 684

BOOK 587 PAGE 148

Producers 88 — Revised
Colorado - Utah - N.D. (P)
(10-59)

OIL AND GAS LEASE

THIS AGREEMENT, made and entered into this 30th day of January, 1981, by and between McIntyre Livestock Corporation, a Colorado corporation, P. O. Box 121, Route 1 of Fruita, Colorado 81521, hereinafter called lessor (whether one or more), and Snyder Oil Company, 1800 Glenarm Place, of Denver, Colorado 80202, hereinafter called lessee;

WITNESSETH: that lessor, for and in consideration of Ten and no/100 DOLLARS ($10.00) in hand paid, receipt of which is hereby acknowledged, and of the agreements of lessee hereinafter set forth, hereby grants, demises, leases and lets exclusively unto said lessee the lands hereinafter described for the purpose of prospecting, exploring by geophysical and other methods, drilling, mining, operating for and producing oil or gas, or both, including, but not as a limitation, casinghead gas, casinghead gasoline, gas-condensate (distillate) and any substance, whether similar or dissimilar, produced in a gaseous state, together with the right to construct and maintain pipe lines, telephone and electric lines, tanks, powers, ponds, roadways, plants, equipment, and structures thereon to produce, save and take care of said oil and gas, and the exclusive right to inject air, gas, water, brine and other fluids from any source into the subsurface strata and any and all other rights and privileges necessary, incident to, or convenient for the economical operation of said land, alone or conjointly with neighboring land, for the production, saving and taking care of oil and gas and the injection of air, gas, water, brine, and other fluids into the subsurface strata, said lands being situated in the County of Delta/Gunnison, State of Colorado, and being described as follows, to wit:

See EXHIBIT "A" attached and made a part hereof,

Lessor hereby grants to Lessee under the terms of this lease the exclusive right to extract gas associated with low permeability sand and coal deposits underlying said land.

of Section XXXXX, Township XXXXX, Range XXXXX, it being the purpose and intent of lessor to lease, and lessor does hereby lease, all of the lands or interests in lands owned by lessor which adjoin the lands above described or which lie in the section or sections herein specified.

For all purposes of this lease, said lands shall be deemed to contain 2,400.67 acres. /Five (5) /January 22, 1982

Subject to the other provisions herein contained, this lease shall remain in force for a term of XXXXX years from XXXXXXX (herein called "primary term") and as long thereafter as oil and gas, or either of them, is produced from the above described land or drilling operations are continuously prosecuted as hereinafter provided. "Drilling operations" includes operations for the drilling of a new well, the reworking, deepening or plugging back of a well or hole or other operations conducted in an effort to obtain or reestablish production of oil or gas, and drilling operations shall be considered to be "continuously prosecuted" if not more than 60 days shall elapse between the completion or abandonment of one well or hole and the commencement of drilling operations on another well or hole. If, at the expiration of the primary term of this lease, oil or gas is not being produced from the above described land but lessee is then engaged in drilling operations, this lease shall continue in force so long as drilling operations are continuously prosecuted, and if production of oil or gas results from any such drilling operations, this lease shall continue in force so long as oil or gas shall be produced. If after the expiration of the primary term of this lease, production from the above described land should cease, this lease shall not terminate if lessee is then prosecuting drilling operations, or within 60 days after each such cessation of production commences drilling operations, and this lease shall remain in force so long as such operations are continuously prosecuted, and if production results therefrom, then as long thereafter as oil or gas is produced from the above described land.

In consideration of the premises, lessee covenants and agrees:

1st. To deliver, free of cost, to lessor at the wells, or to the credit of lessor in the pipeline to which the wells may be connected, the equal one-eighth (1/8) part of all oil and other liquid hydrocarbons produced and saved from the leased premises, or, at lessee's option, to pay to lessor for such one-eighth (1/8) royalty the market price at the well for such oil and other liquid hydrocarbons of like grade and gravity prevailing on the day such oil and other liquid hydrocarbons are run from the lease stock tanks.

2nd. To pay lessor one-eighth (1/8) of the proceeds received by lessee at the well for all gas (including all substances contained in such gas) produced from the leased premises and sold by lessee; if such gas is used by lessee off the leased premises or used by lessee for the manufacture of casinghead gasoline or other products, to pay to lessor one-eighth (1/8) of the prevailing market price at the well for the gas so used.

If no well be commenced on said land on or before one year from XXXXXXXXXXX this lease shall (except as otherwise provided in this paragraph) terminate, unless lessee (or someone in his behalf), on or before such date, shall pay or tender to lessor, or to lessor's credit in the /January 22, 1982 First National Bank of Grand Junction, Colorado which bank and its successors shall continue as the depository regardless of changes in the ownership of said land or of the right to receive rentals, the sum of Two Thousand Four Hundred & 67/100 DOLLARS ($2,400.67), which shall operate as a rental and cover the privilege of deferring the commencement of a well for 12 months from said date. In like manner and upon like payments or tenders, the commencement of a well may be further deferred for like periods of the same number of months successively during the primary term hereof. All payments or tenders may be made by cash, check or draft, mailed or delivered on or before the rental date, and the depositing of such cash, check or draft in any post office, addressed to the depository bank or lessor (at his last known address as shown by lessee's records) on or before the rental date, shall be deemed payment or tender as herein provided. Notwithstanding the death of lessor, payment or tender of rentals to such deceased or to his credit in the manner provided herein shall be binding on the heirs, devisees, executors, administrators and personal representatives of lessor and his successors in interest. If lessee shall, on or before any rental date, make a bona fide attempt to pay or deposit rental to a lessor entitled thereto under this lease according to lessee's records or to a lessor who, prior to such attempted payment or deposit, has given lessee notice, in accordance with the terms of this lease hereinafter set forth, of his right to receive rental, and if such payment or deposit shall be erroneous in any regard (whether deposited in the wrong depository, paid to persons other than the parties entitled thereto as shown by lessee's records, in an incorrect amount, or otherwise), lessee shall be unconditionally obligated to pay to such lessor the rental properly payable for the rental period involved, but this lease shall be maintained in the same manner as if such erroneous rental payment or deposit had been properly made, provided that the erroneous rental payment or deposit be corrected within 30 days after receipt by lessee of written notice from such lessor of such error accompanied by any documents and other evidence necessary to enable lessee to make proper payment. The consideration first recited herein, the down payment, covers not only the privilege granted to the date when said first rental is payable as aforesaid, but also lessee's option of extending that period as aforesaid, and any and all other rights conferred.

Should the first well drilled on the above described land be completed as a dry hole, then, and in that event, if a second well is not commenced on said land within 12 months from the expiration of the last rental period for which rental has been paid (it being understood that for the purpose of this paragraph the period of time extending from the date of this lease to the first rental date shall be considered as a rental period for which rental has been paid), this lease shall terminate as to both parties, unless lessee on or before the expiration of said 12 months shall resume the payment of rentals in the same amount and in the same manner as hereinbefore provided. Upon resumption of the payment of rentals, as above provided, the last preceding paragraph hereof, governing the payment of rentals and the effect thereof, shall continue in force just as though there had been no interruption in rental payments.

If a well capable of producing gas or gas and gas-condensate in paying quantities located on the leased premises (or on acreage pooled or consolidated with all or a portion of the leased premises into a unit for the drilling or operation of such well) is at any time shut in and no gas or gas-condensate therefrom is sold or used off the premises or for the manufacture of gasoline or other products, nevertheless such shut-in well shall be deemed to be a well on the leased premises producing gas in paying quantities and this lease will continue in force during all of the time or times while such well is so shut in, whether before or after the expiration of the primary term hereof. Lessee shall use reasonable diligence to market gas or gas and gas-condensate capable of being produced from such shut-in well but shall be under no obligation to market such products under terms, conditions or circumstances which, in lessee's judgment exercised in good faith, are unsatisfactory. Lessee shall be obligated to pay or tender to lessor within 45 days after the expiration of each period of one year in length (annual period) during which such well is so shut in, as royalty, an amount equal to the annual delay rental herein provided applicable to the interest of lessor in acreage embraced in this lease as of the end of such annual period, or, if this lease does not provide for any delay rental, then the sum of $50.00; provided that, if gas or gas-condensate from such well is sold or used as aforesaid before the end of any such annual period, or if at the end of any such annual period, this lease is being maintained in force and effect otherwise than by reason of such shut-in well, lessee shall not be obligated to pay or tender, for that particular annual period, said sum of money. Such payment shall be deemed a royalty under all provisions of this lease. Such payment may be made or tendered to lessor or to lessor's credit in the depository bank above designated. Royalty ownership as of the last day of each such annual period as shown by lessee's records shall govern the determination of the party or parties entitled to receive such payment.

If lessor owns a less interest in the land covered by this lease than the entire and undivided fee simple mineral estate therein, then whether or not such less interest is referred to or described herein, all rentals and royalties herein provided shall be paid lessor only in the proportion which his interest bears to the whole and undivided mineral fee.

If the estate of either party hereto is assigned or sublet, and the privilege of assigning or subletting in whole or in part is expressly allowed, the express and implied covenants hereof shall extend to the sublessees, successors and assigns of the parties, and in the event of an assignment or subletting by lessee, lessee shall be relieved and discharged as to the leasehold rights so assigned or sublet from any liability to lessor thereafter accruing upon any of the covenants or conditions of this lease, either express or implied. No change in the ownership of the land, rentals or royalties, however accomplished, shall operate to enlarge the obligations or diminish the rights of lessee or require separate measuring or installation of separate tanks by lessee. Notwithstanding any actual or constructive knowledge of or notice to lessee, no change in the ownership of said land or of the right to receive rentals or royalties hereunder, or of any interest therein, whether by reason of death, conveyance or any other matter, shall be binding on lessee (except at lessee's option in any particular case) until 90 days after lessee has been furnished written notice thereof, and the supporting information hereinafter referred to, by the party claiming as a result of such change in ownership or interest. Such notice shall be supported by original or certified copies of all documents and other instruments or proceedings necessary in lessee's opinion to establish the ownership of the claiming party. If this lease is assigned or sublet insofar as it covers only a part of the acreage embraced in the leased premises, the delay rentals hereinabove provided for shall be apportioned to the separate parts, rateably according to the surface acreage of each, and failure of the leasehold owner or sublessee of any separate part of the above described lands to make a rental payment with respect to such part shall in no event operate to terminate or affect this lease insofar as it covers any other part thereof.

Lessee may, at any time, execute and deliver to lessor or place of record a release covering all or any part of the acreage embraced in the leased premises or covering any one or more zones, formations or depths underlying all or any part of such acreage, and thereupon shall be relieved of all obligations thereafter to accrue with respect to the acreage, zones, formations or depths covered by such release. In event of a release of this lease as to all rights in only a part of the acreage embraced in the leased premises, thereafter the delay rentals hereinabove provided for shall be reduced proportionately on an acreage basis.

Lessee is granted the right, from time to time while this lease is in force, to pool into a separate operating unit or units all or any part of the land covered by this lease with other land, lease or leases, or interests therein (whether such other interests are pooled by a voluntary agreement on the part of the owners thereof or by the exercise of a right to pool by the lessees thereof), when in lessee's judgment it is necessary or advisable in order to promote conservation, to properly develop or operate the land and interests to be pooled, or to obtain a multiple production allowable from any governmental agency having control over such matters. Any pooling hereunder may cover all oil and gas, or any one or more of the substances covered by this lease, and may cover one or more or all zones or formations underlying all or any portion or portions of the leased premises. Any unit formed by such pooling shall be of abutting or cornering tracts and shall not exceed 640 acres (plus a tolerance of 10%) for gas or gas-condensate and shall not exceed 40 acres (plus a tolerance of 10%) for any other substance covered by this lease; provided that if any governmental regulation or order shall prescribe a spacing pattern for the development of a field wherein the above described land, or a portion thereof, is located, or allocate a producing allowable based on acreage per well, then any such unit may embrace as much additional acreage as may be so prescribed or as may be permitted in such allocation of allowable. The area pooled and the zones or formations and substances pooled shall be set forth by lessee in a "declaration of pooling" filed for record in the county or counties in which the pooled area is located. Such pooling shall be effective on the date such declaration is filed unless a later effective date is specified in such declaration. In lieu of the royalties elsewhere herein specified, except shut-in gas well royalties, lessor shall receive on production from an area so pooled only such portion of the royalties which, in the absence of such pooling, would be payable hereunder to lessor on production from the land covered by this lease which is placed in the pooled area as the amount of the surface acreage in the land covered by this lease which is placed in the

80-1006

State of Colo., County of Delta, Filed FEB 27 1981, Recorded at 3:00 O'clock P.M., Recorder 390325

Filed for record the 24th day of November A.D. 1982 at 11:45 o'clock A.M., Reception No. 372076, Joanne M. Reitinger, Recorder, By [signature] Deputy

pooled area bears to the amount of the surface acreage of the entire pooled area. Nothing herein contained shall authorize or effect any transfer of any title to any leasehold, royalty or other interest pooled pursuant hereto. The commencement of a well, the conduct of other drilling operations, the completion of a well or of a dry hole, or the operation of a producing well on the pooled area, shall be considered for all purposes (except for royalty purposes) the same as if said well were located on, or such drilling operations were conducted upon, the lands covered by this lease whether or not such well is located upon, or such drilling operations are conducted upon, said lands. Lessee may terminate any pooling effected pursuant hereto at any time the pooled unit is not producing and no drilling operations are being conducted thereon by executing and filing of record in the county or counties in which the pooled area is located a written declaration of the termination of such pooling, provided that the pooling of all interests not covered by this lease which comprise a part of such pooled unit be also terminated in some effective manner.

Lessee shall have the right to use, free of cost, oil, gas and water produced on said land for its operations thereon except water from wells of lessor. Lessee shall have the right at any time to remove all machinery and fixtures placed on said premises, including the right to draw and remove casing. No part of the surface of the leased premises shall, without the written consent of lessee, be let, granted or licensed by lessor to any other party for the location, construction or maintenance of structures, tanks, pits, reservoirs, equipment, or machinery to be used for the purpose of exploring, developing or operating adjacent lands for oil, gas or other minerals.

Lessee shall bury below plow depth its pipe lines on the leased premises when requested by a lessor owning an interest in the surface. No well shall be drilled nearer than 200 feet to any house or barn now on said premises without the written consent of the owner of the surface on which such house or barn is located. Lessee shall pay for damages to growing crops caused by its operations on said lands.

Lessor hereby warrants and agrees to defend the title to the lands herein described, but if the interest of lessor covered by this lease is expressly stated to be less than the entire fee or mineral estate, lessor's warranty shall be limited to the interest so stated. Lessee may purchase or lease the rights of any party claiming any interest in said land and exercise such rights as may be obtained thereby but lessee shall not suffer any forfeiture nor incur any liability to lessor or reason thereof. Lessee shall have the right at any time to pay for lessor, any mortgage, taxes or other lien on said lands, in the event of default of payment by lessor, and be subrogated to the rights of the holder thereof, and any such payments made by lessee for lessor may be deducted from any amounts of money which may become due lessor under this lease.

All express provisions and implied covenants of this lease shall be subject to all applicable laws, governmental orders, rules and regulations. This lease shall not be terminated in whole or in part, nor lessee held liable in damages, because of a temporary cessation of production or of drilling operations due to breakdown of equipment or due to the recasing of a well or wells, or because of failure to comply with any of the express provisions or implied covenants of this lease if such failure is the result of the exercise of governmental authority, war, armed hostilities, lack of market, act of God, strike, civil disturbance, fire, explosion, flood or any other cause reasonably beyond the control of lessee.

This lease and all provisions thereof shall be applicable to and binding upon the parties and their respective successors and assigns. Reference herein to lessor and lessee shall include reference to their respective successors and assigns. Should any one or more of the parties named above as lessors not execute this lease, it shall nevertheless be binding upon the party or parties executing the same.

Lessor's obligations and rights under the terms of this lease are first subject to that certain Oil and Gas Lease dated January 21, 1975 with Burton Hawks, Inc. When making an entry to develop Lessor's land or to cross Lessor's land to reach other land, Lessee hereby agrees to install bridges and culverts when crossing streambeds, and to use metal gates in lieu of cattle guards or other gates when necessary. Lessee further agrees to reseed, recontour and maintain while in use, all access roads and drill sites.

IN WITNESS WHEREOF, this lease is executed as of the day and year first above written.

Attest: Virginia M. McIntyre, Secretary

By: Larry R. McIntyre, President

STATE OF ..... }
COUNTY OF ..... } SS.

(Individual — Colorado - Utah - N.D.)

On the ..... day of ..... A. D., 19 ....., personally appeared before me ..... the signer ..... of the above instrument, who duly acknowledged to me that ..... he ..... executed the same. WITNESS my hand and official seal.

My commission expires: .....

Notary Public

Residing at: .....

STATE OF ..... }
COUNTY OF ..... } SS.

(Individual — Colorado - Utah - N.D.)

On the ..... day of ..... A. D., 19 ....., personally appeared before me ..... the signer ..... of the above instrument, who duly acknowledged to me that ..... he ..... executed the same. WITNESS my hand and official seal.

My commission expires: .....

Notary Public

Residing at: .....

STATE OF Colorado }
COUNTY OF Garfield } SS.

(Corporation — Colorado - Utah - N.D.)

On the ..... day of ..... A. D., 19....., personally appeared before me ..... Larry R. McIntyre, who being by me duly sworn, did say that he is the President of the McIntyre Livestock Corporation, a corporation, and that said instrument was signed in behalf of said corporation by authority of a resolution of its Board of Directors and said Larry R. McIntyre acknowledged to me that said corporation executed the same.

WITNESS my hand and official seal.

My commission expires: December 17, 1984

Notary Public

Residing at: Glenwood Springs, Colorado

STATE OF ..... }
COUNTY OF ..... } SS.

(Certificate of Recording)

This instrument was filed for record on the ..... day of ..... 19..... at ..... o'clock ....M and recorded in Book ..... at Page ..... of the records of this office.

County Recorder

By ..... Deputy

AFTER RECORDING, RETURN TO: .....

RECORDED

INDEXED

393825

ac29-16

BOOK 489 PAGE 656

BOOK 537 PAGE 150

EXHIBIT "A"

This exhibit is attached to and made a part hereof that certain Oil and Gas Lease dated January 30, 1981 by and between McIntyre Livestock Corporation, a Colorado corporation and Snyder Oil Company.

TOWNSHIP 11 SOUTH, RANGE 90 WEST, 6th P. M.
Section 10: $E\frac{1}{2}SW\frac{1}{4}SE\frac{1}{4}$, $SE\frac{1}{4}SE\frac{1}{4}$
Section 13: Lot 11 (27.26)
Section 14: $S\frac{1}{2}NW\frac{1}{4}$, $NE\frac{1}{4}NW\frac{1}{4}$, $SW\frac{1}{4}$, Lot 2 (32.20)
Section 15: $E\frac{1}{2}NW\frac{1}{4}NE\frac{1}{4}$, $SW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$, $S\frac{1}{2}NW\frac{1}{4}NW\frac{1}{4}NE\frac{1}{4}$, $W\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}$, $NE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$, $N\frac{1}{2}SE\frac{1}{4}NE\frac{1}{4}NE\frac{1}{4}$, $N\frac{1}{2}N\frac{1}{2}SW\frac{1}{4}NE\frac{1}{4}$, $SE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$, $N\frac{1}{2}NE\frac{1}{4}SE\frac{1}{4}NW\frac{1}{4}$, $S\frac{1}{2}NE\frac{1}{4}NE\frac{1}{4}NW\frac{1}{4}$
Section 26: $S\frac{1}{2}SW\frac{1}{4}$, Lot 6 (36.00), Lot 7 (16.72)
Section 27: $W\frac{1}{2}SE\frac{1}{4}$, $SE\frac{1}{4}SE\frac{1}{4}$, Lot 3 (36.16)

TOWNSHIP 12 SOUTH, RANGE 90 WEST, 6th P. M.
Section 1: $S\frac{1}{2}NE\frac{1}{4}$, Lot 1 (26.75), Lot 2 (26.87), and a strip of land 247 feet wide at the East end and 240 feet wide at the West end from the North side of of the South Half of Section, containing 28.75 acres, more or less
Section 2: $SE\frac{1}{4}NE\frac{1}{4}$, and a strip of land 240 wide extending across the North side of the East Half of the Southeast Quarter of Section 2, containing 7.18 acres, more or less

H. E. Survey No. 80 (158.54), embracing a portion of approximately Sections 22, 23 and 26 in Township 11 South, Range 90 West, 6th P. M.

H. E. Survey No. 255 (159.99), embracing a portion of approximately Sections 24 and 25 in Township 10 South, Range 91 West and Section 30 in Township 10 South, Range 90 West of the 6th P. M.

H. E. Survey No. 257 (159.99), embracing a portion of Section 6 in Township 11 South, Range 90 West, and a portion of Section 31 in Township 10 South, Range 90 West, and a portion of Section 36 in Township 10 South, Range 91 West of the 6th P. M.

H. E. Survey No. 258 (145.17), embracing a portion of Sections 9 and 10 in Township 11 South, Range 90 West, 6th P. M.

H. E. Survey No. 268 (139.10), embracing a portion of Sections 31 and 32 in Township 10 South, Range 90 West, 6th P. M.

H. E. Survey No. 269 (160.00), embracing a portion of Sections 29, 30, 31 and 32 in Township 10 South, Range 90 West, 6th P. M.

H. E. Survey No. 312 (160.00), embracing a portion of Section 6 in Township 11 South, Range 90 West, and Section 36 in Township 10 South, Range 91 West, 6th P. M.

EXHIBIT "A" (cont.)

M. E. Survey No. 270 (159.99), embracing a portion of Section 1 in Township 11 South, Range 91 West, and Section 36 in Township 10 South, Range 91 West, and Section 6 in Township 11 South, Range 90 West, of the 6th P. M.

Portions of Ute Placer Claim, U. S. Survey No. 5902 in the Muddy Mining District described as follows: (1) Beginning at Station 0, a point on the boundary of said claim, whence Corner 18 of said claim bears South 29 degrees 0' East 656.6 feet, and running thence North 72 degrees 15' East 360.2 feet to Station No. 1; thence North 9 degrees 13' West 288.10 feet to Station No. 2; thence North 8 degrees 30' East 313.0 feet to Station No. 3; thence North 2 degrees 55' West 398.8 feet to Station No. 4; thence North 38 degrees 34' West 218.8 feet to Station No. 5; thence North 18 degrees 50' West 264.9 feet to Station No. 6; thence North 45 degrees 57' West 277.3 feet to Station No. 7; thence North 29 degrees 09' West 295.7 feet to Station No. 8; thence North 83 degrees 58' East 261.4 feet to Corner No. 12 of said Ute Claim; thence North 41 degrees 44' West 1662.3 feet to Corner No. 13 of said claim; thence North 12 degrees 51' West 1319.2 feet to Corner No. 14 of said claim; thence South 54 degrees 54' West 1141.7 feet to Corner No. 15 of said claim; thence South 23 degrees 48' East 1472.2 feet to Corner No. 16 of said claim; thence South 38 degrees 17' East 1747.1 feet to Corner No. 17 of said claim; thence South 29 degrees 00' East 1319.8 feet to Station 0, the point of beginning. (2) Beginning at Station 0, a point on the boundary of said claim whence Corner No. 18 of said claim bears South 29 degrees 00' East 656.6 feet, and running thence North 72 degrees 15' East 360.2 feet to Station 1; thence North 9 degrees 13' West 288.1 feet to Station 2; thence North 8 degrees 30' East 313.0 feet to Station 3; thence North 2 degrees 55' West 398.8 feet to Station 4; thence North 38 degrees 34' West 218.8 feet to Station 5; thence North 18 degrees 50' West 264.9 feet to Station 6; thence North 45 degrees 57' West 277.3 feet to Station 7; thence North 29 degrees 09' West 295.7 feet to Station 8; thence North 83 degrees 58' East 261.4 feet to Corner No. 12 of said claim; thence South 33 degrees 38' East 2274.7 feet to Corner No. 11 of said claim; thence South 54 degrees 24' East 1441.5 feet to Corner No. 10 of said claim; thence South 54 degrees 36' West 1198.7 feet to Corner No. 19 of said claim; thence North 53 degrees 37' West 1433.6 feet to Corner No. 18 of said claim; thence North 29 degrees 00' West 656.6 feet to Station 0, the place of beginning, containing in both parcels a total of 160.00 acres, more or less, and being situated in Sections 11 and 14 in Township 11 South, Range 90 West, 6th P. M.

Signed for identification:

Larry R. McIntyre, President

Virginia M. McIntyre, Secretary

Appendix C

Weed Control Plan

Noxious Weed Management Plan

Natural Gas Facilities in the Bull Mountain Unit

SG Interests I, Ltd. Montrose, CO

SG INTERESTS I, LTD.

December 2010

1.0 Introduction

This Noxious Weed Management Plan (plan) identifies measures to be taken by SG Interests I, Ltd. (SG) and its contractors (Contractor) to minimize the spread and establishment of noxious weeds and non-native invasive species.

Measures identified in this plan apply to work within the project area defined as well pads, pipeline rights-of-way, access roads, temporary use areas, and other areas used in association with the natural gas development within the Bull Mountain Unit and adjacent areas in Gunnison County.

1.1 Purpose

SG is committed to preventing the introduction of noxious weeds during construction and controlling the expansion of existing noxious weed populations over the life of the project. All noxious weeds as defined by Gunnison County and the state of Colorado (Colorado Weed Management Act CRS Title 35, Article 5.5 as amended) will be controlled. The purpose of this plan is to prescribe methods to treat existing weed infestations, prevent introduction and spread of infestations during construction, and monitor and treat infestations after construction is complete.

2.0 Noxious Weed Management

2.1 Weed Identification

The following noxious weeds are listed noxious weeds in the state of Colorado or in the Gunnison Basin Weed District Management Plan. The goal for Colorado A Listed weeds is eradication. The goal for B Listed weeds is to stop their spread. C Listed weeds are those weeds that are managed by local jurisdictions within the state of Colorado.

Weed Name	Scientific Name	Gunnison Co. Listed	Colorado List (A, B, or C)
Absinth wormwood	*Artemisia absinthium*	√	B
African rue	*Peganum harmala*		A
Black henbane	*Hyoscyamus niger*	√	B
Bull thistle	*Cirsium vulgare*		B
Burdock	*Arctium minus*		C
Camelthorn	*Alhagi pseudalhagi*		A
Canada thistle	*Cirsium arvense*		B
Chicory	*Chichorium intybus*		C
Common crupina	*Crupina vulgaris*		A
Common St. Johnswort	*Hypericum perforatum*		C
Cypress spurge	*Euphorbia cyparissias*		A
Dalmation toadflax	*Linaria dalmatica*	√	B
Dame's rocket	*Hesperis matronalis*	√	B
Diffuse knapweed	*Centaurea diffusa*	√	B
Dyer's Woad	*Isatis tinctoria*		A
Field bindweed	*Convolvulus arvensis*	√	C
Giant salvinia	*Salvinia molesta*		C
Halogeton	*Halogeton glomeratus*		C
Hoary cress	*Cardaria draba*	√	B
Houndstongue	*Cynoglossum officinale*		B
Hydrilla	*Hydrilla verticillata*		A
Jointed goatgrass	*Aegilops cylindrica*		B

Weed Name	Scientific Name	Gunnison Co. Listed	Colorado A List
Leafy spurge	*Euphorbia esula*	√	B
Meadow knapweed	*Centaurea pratensis*		A
Mediterranean sage	*Salvia aethopis*		A
Medusahead	*Taeniatherum caputmedusae*		A
Myrtle spurge	*Euphorbia myrsinites*		A
Musk thistle	*Carduus nutans*	√	B
Orange hawkweed	*Hieracium aurantiacum*	√	
Oxeye Daisy	*Chrysanthemum leucanthemum*	√	B
Plumeless thistle	*Carduus acanthoides*	√	B
Poison hemlock	*Conium maculatum*		C
Puncturevine	*Tribulus terrestris*		C
Purple loosestrife	*Lythrum salicaria*	√	A
Rush skeletonweed	*Chondrilla juncea*		A
Russian knapweed	*Centaurea repens*	√	B
Russian olive	*Elaeagnus angustifolia*		B
Sericea lespedeza	*Lespedeza cuneata*		A
Scotch thistle	*Onopordum acanthium*	√	B
Spotted knapweed	*Centaurea maculosa*	√	B
Squarrose knapweed	*Centaurea virgata*		B
Tamarisk	*Tamarix parviflora, T.ramosissima*	√	B
Tansy ragwort	*Senecio jacobaea*		A
Yellow starthistle	*Centaurea solstitialis*		A
Yellow toadflax	*Linaria vulgaris*	√	B

2.2 Preventative Measures

The following preventative measures will be implemented to prevent the spread of noxious weeds:

- If soil stockpiles are created in infested areas, these stockpiles will be kept as close as possible to the infested areas. No soil from infested areas will be moved until they are leveled and used. Soil from an infested area will not be used in any other area beside where it was collected.

- Vehicles and equipment will be required to arrive at the work site clean, power-washed, and free of soil and vegetative debris capable of transporting weed seeds or other propagules.

- Materials used for erosion control and reclamation (i.e. straw bales and seed mixes) will be obtained from sources that are weed-free. Seed mixes will also be weed free.

- Disturbed areas will be reseeded in accordance with the Surface Use Agreement and any applicable permit stipulations as soon as possible after construction activities have been completed.

2.3 Weed Treatment Measures

Depending upon the species of weed and the time planned for construction, methods of weed pre-treatment may include:
4

- Mechanical—mowing, pulling by hand, or tillage could be used.
- Chemical—application of an approved herbicide by a licensed applicator. Herbicides will be

selected based on recommendations by local weed control district or BLM/FS and subject to fee-landowner approval. All herbicides will be applied in accordance with all applicable laws and regulations on BLM/FS and fee-lands.

- Cultural – employing practices such as reseeding with non-invasive species that can outcompete noxious species. This type of treatment will be conducted in some fashion on all disturbed areas associated with the project.

Effective control measures vary for different weed species. For many species, a combination of measures should be employed to be most effective. The following table lists the known and potential weeds within the Bull Mountain Unit as well as the best control measures for each.

Table 2.3-1 Noxious weeds and appropriate controls

Weed Name	Herbicide Used?	Herbicide details	Mechanical measures used?	Type of mechan. control	Cultural Control Used?	Type of cultural control
Bull thistle	Yes (ex. Tordon)	Spray rosettes in early spring	Yes	Removal of rosettes and mowing of bolting plants	Yes	Seeding w/desirable species
Burdock	No	NA	Yes	Sever tap root	Yes	Seeding w/desirable species
Canada thistle	Yes	Mow then spray in late summer or fall	Yes	Mowing prior to spraying	Yes	Seeding w/desirable species
Chicory	Possibly	Contact county specialist	No	NA	Yes	Seeding w/desirable species
Common St. Johnswort	Yes(ex. Roundup Ultra)	Spray green plants, preflower-ing	No	NA	Yes	Seeding w/ desirable species
Dalmation toadflax	Yes (ex. Tordon K)	Herbicide w/surfacet-ant in early stages	Yes	Hand grubbing during summer	Yes	Seeding w/ desirable species
Diffuse knapweed	Yes	Spray at rosette stage	Yes	Hand pulling of rosettes and plants early in bolting stage	Yes	Seeding w/desirable species
Dyer's Woad	Yes	Spray rosettes in spring or fall	Yes	Hand pull bolting plants, bag any heads	Yes	Seeding w/desirable species

Weed Name	Herbicide Used?	Herbicide details	Mechanical measures used?	Type of mechan. control	Cultural Control Used?	Type of cultural control
Field bindweed	Yes (ex. Roundup Ultra)	Spray green plants, early flowering stage	No	NA	Yes	Seeding w/desirable species
Halogeton	No	NA	No	NA	Yes	Seeding w/desirable species
Hoary cress	Yes	Spray pre or early bloom stage	No	NA	Yes	Seeding w/desirable species
Houndstongue	Yes	Spray prebud or rosette state	Yes	Hand pull after bolting stage, if flowers bag heads	Yes	Seeding w/desirable species
Jointed goatgrass	No	NA	Yes	Mow just after seed heads form	Yes	Seeding w/desirable species
Leafy spurge	Yes (ex. Tordon 22K)	Spray in spring pre flowering and in fall	No	NA	Yes	Seeding w/desirable species
Mediterranean sage	No	NA	Yes	Cut flowering plants and bag heads	Yes	Seeding w/desirable species
Musk thistle	Yes (ex. Tordon 22K)	Spray rosettes and early bolting stages	Yes	Hand pull, sever tap root, bag heads, mow large infestations at bolting or early flowering	Yes	Seeding w/ desirable species
Oxeye Daisy	Yes	Spray preflower-ing stage	No	NA	Yes	Seeding w/desirable species
Plumeless thistle	Yes (ex. Tordon 22K)	Spray rosette to early bolting stage	Yes	Sever tap root, bag heads, mow large infestations bolting to early flower stage	Yes	Seeding w/desirable species

Weed Name	Herbicide Used?	Herbicide details	Mechanical measures used?	Type of mechan. control	Cultural Control Used?	Type of cultural control
Poison hemlock	Yes (ex. phenoxy herbicides or glyphosate)	Spray young plants	No	NA	Yes	Seeding w/desirable species
Punctureviné	Yes (ex. chlorsulfur-on and 2, 4-D)	Chlorsulfur-on preemerg-ence and 2, 4-D , soon after emergence	Yes	Cut or hoe plants prior to seeding, bag any heads	Yes	Seeding w/desirable species
Purple loosestrife	Yes (2,4-D and glyphosate)	Spray in spring preflower-ing fall spraying w/removal of flower heads	Yes	Hand pull small plants, mow larger infestations	Yes	Seeding w/desirable species
Russian knapweed	Yes (ex. Curtail)	Spray in bud to bloom stage in summer and fall	No	NA	Yes	Seeding w/desirable species
Russian olive	Yes (ex. Garlon)	Spray cut stump or apply to basal bark	Yes	Cut trees down or cut basal bark (follow up with chemical treatment)	Yes	Seeding w/desirable species and plant willow cuttings, Carex plugs
Scotch thistle	Yes (ex. Milestone)	Spray rosettes using surfactant added spray	Yes	Dig rosettes, sever root	Yes	Seeding w/desirable species
Spotted knapweed	Yes (ex. Tordon 22K)	Spray rosettes	No	NA	Yes	Seeding w/desirable species

Weed Name	Herbicide Used?	Herbicide details	Mechanical measures used?	Type of mechan. control	Cultural Control Used?	Type of cultural control
Tamarisk	Yes (ex. Garlon 4)	Paint stump w/herbi-cide, spray sprouts, use basal bark treatment for small diameter trees	Yes	Cut tree (follow up with chemical treatment)	Yes	Seeding w/desirable species, plant willow cuttings, Carex plugs
Yellow starthistle	Yes (ex. Tordon 22K)	Spray rosettes & early bolting stages	Yes	Hand pull small infestations	Yes	Seeding w/desirable species
Yellow toadflax	Possibly	Consult specialists	Possibly	Consult specialists	Yes	Seeding w/desirable species

Best Management Practices for the Noxious Weeds of Mesa County recommendations with some herbicide recommendations from 2006 North Dakota Weed Control Guide (http://www.ag.ndsu.edu/weeds/w253/w253w.htm) and additional information from Weed Control Methods Handbook: Tools and Techniques for Use in Natural Areas, The Nature Conservancy.

If any soil stockpiles are maintained for longer than 90 days, these stockpiles will be treated for weeds.

3.0 Reseeding

3.1 Seed Mix

The seed mix will be chosen by the landowner, stipulated in permit conditions of approval, or dictated by the surface management agency. Some possible seed sources are:

- Arkansas Valley Seed Solutions 877-957-3337; 4625 Colorado Blvd, Denver, CO 80216
- Pawnee Butte Seed Co. 970-356-7002; P.O. Box 1604, Greeley, CO 80632
- Sharp Bros, Seed Co. 800-421-4234 104 East 4th Street Road Greeley, Colorado 80631
- Southwest Seed, 13260 County Road 29, Dolores, CO 81323

3.2 Planting Schedule

Areas slated for reclamation will be returned to near pre-construction grades and contours. Topsoil will then be replaced over the disturbed area from which it was stripped.

Final cleanup after work in waterbodies and wetlands (primarily associated with pipeline installation) will be concluded, seeding accomplished, and mulching or erosion control mats installed, prior to the end of the following time frames.

- waterbodies—24 hours after initial in-stream disturbance
- wetlands—within 10 days of backfilling in that wetland

There are exceptions to these time frames, as noted below:

- Seeding and installation of erosion control matting may be deferred until final cleanup (i.e.,

Appendix D

Wildlife Report

ROCKY MOUNTAIN ECOLOGICAL SERVICES, INC.
NEPA••WILDLIFE••VEGETATION••WILDFIRE MITIGATION••WETLANDS••PLANNING

Wildlife and Vegetation Assessment Report

Eck 12-90-1 Natural Gas Project

Gunnison County, Colorado

Prepared for:

Gunnison County Planning Department

and

SG Interests I, Ltd.

January 2012

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Table of Contents

1 Project Description

Pursuant to Gunnison County's Temporary Regulations for Oil and Gas Operations, this Wildlife and Vegetation Assessment Report details the habitats and wildlife use patterns within the project area for SG Interests' proposed drilling, completion, and maintenance of 2 natural gas wells and one water disposal wells to be located on a new pad site. The new site is called the Eck 12-90-1 (referred to as the "Eck Project" hereafter in this report). This report presents recommended minimization and mitigation measures as well as CDOW standard operating procedures currently under review by the COGCC. Per Gunnison County's Temporary Regulations for Oil and Gas Operations, this report was produced to fulfill the requirement of, "…the applicant shall provide an analysis of existing wildlife and sensitive wildlife habitat, an evaluation of the impacts of the Operation on wildlife and sensitive wildlife habitat, and proposed mitigation." As a number of wildlife reports have been produced for individual wells, pipelines, and other projects within the Unit, there is a large amount of material submitted to the public record for this area. In the interest of reducing the length of reports, production of printed materials and amount of redundancy, this report is significantly reduced in size and detail, and focuses only on anticipated impacts. All previously submitted material, and additional material submitted to the BLM is available electronically upon request.

The Eck Project is located in Section 1, Township 12 South, Range 90 West, at an elevation of approximately 7,500' within Gunnison County, Colorado (see **Figures 1** & **2**). The surface area around the Eck Project is owned privately.

New wells would be placed on a new 2 acre pad (to be constructed in 2012), and would utilize existing 0.65 miles roads which would be upgraded to handle construction traffic. A new pipeline route would be constructed to tie into SG's existing pipeline network. This pipeline route is approximately 1.35 miles in length, and would have up to 10.9 acres of temporary surface impacts. While wetland impacts are listed as 0.25 acres, SG has contractors reduce the width of the ROW when crossing wetlands, therefore the true temporary impact to wetlands would be much less that 0.25 acres. Rig mobilization to the pad is planned to begin in the summer of 2012. The estimated life of the water disposal well is 30 years. SG estimates that between 1,000 and 5,000 barrels per day (bbls) of produced water would be injected into the disposal well.

1.1 Table 1: Temporary Surface Impacts from Pipeline Construction

Vegetation Community	Disturbance area (acres)
Mixed Mtn Shrub	1.39
Oakbrush	0.45
Sagebrush	8.83
Wetland/Riparian	0.25
Total	**10.92**

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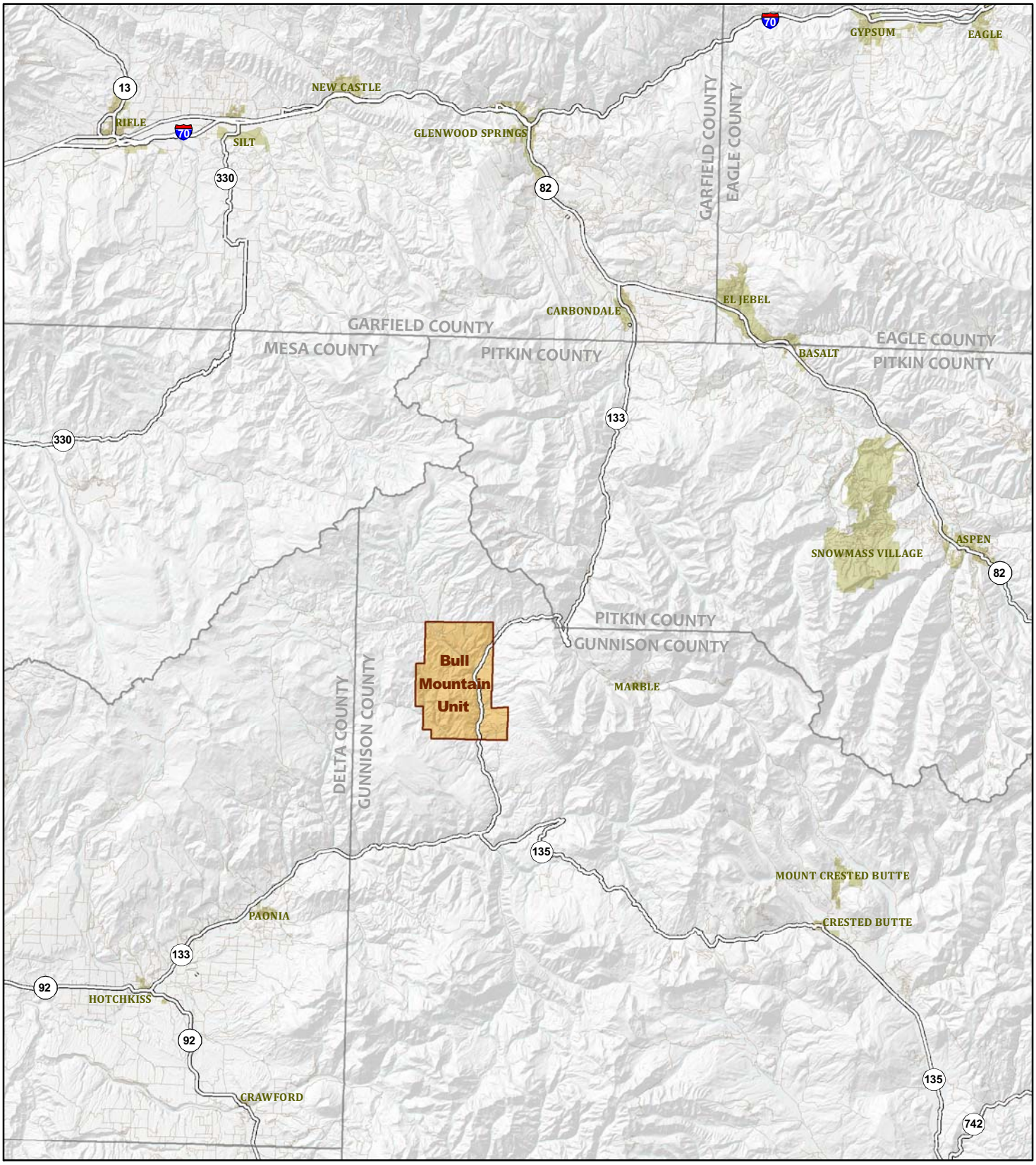


Production Unit
County Boundary
Municipal Boundary
Major Road
Minor Road
Water Feature

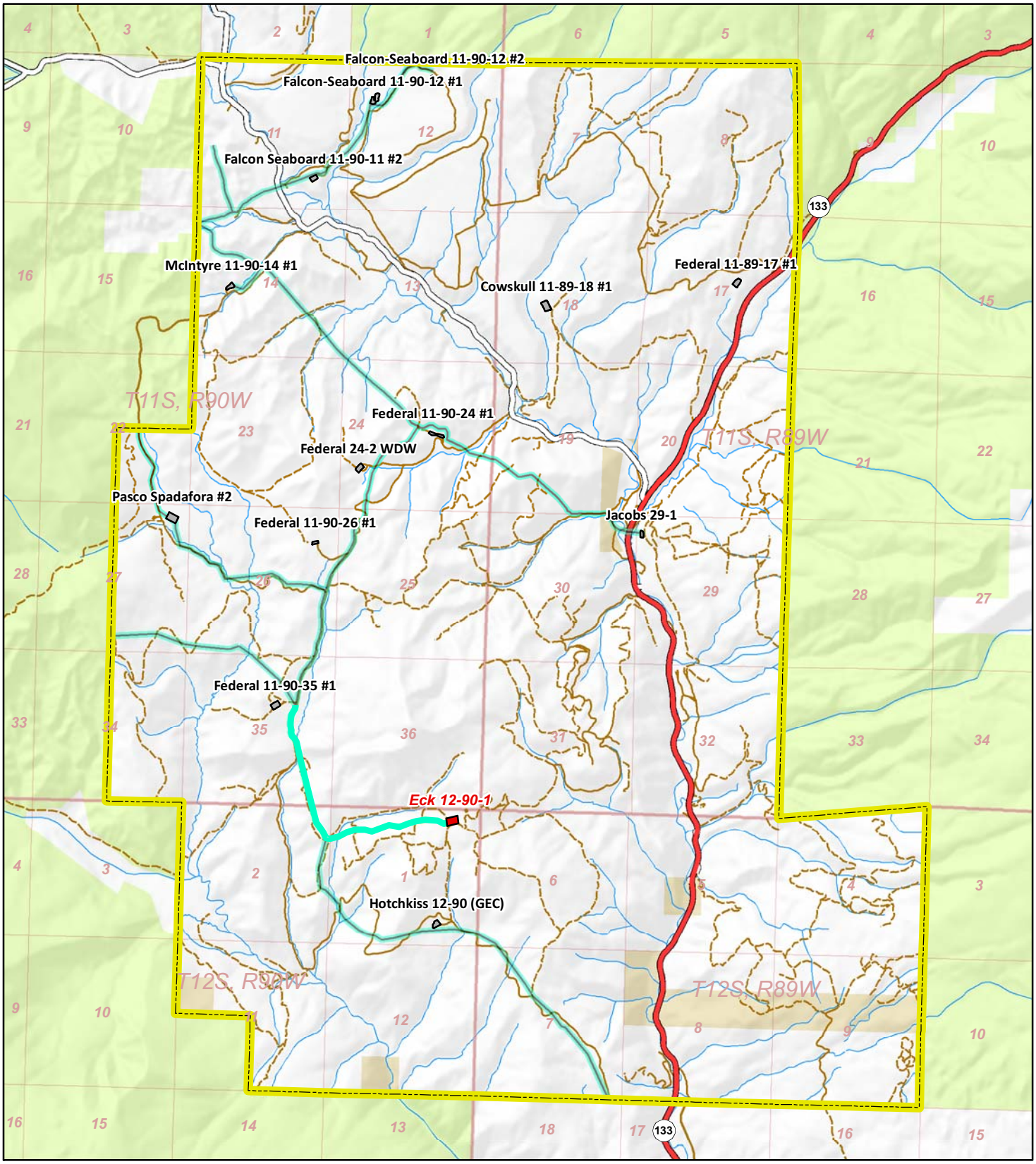
FIGURE 1

Bull Mountain Unit
Eck 12-90-1 Project

Regional Location Map

0 5 10 Miles
1 in = 8 miles

Prepared for SG Interests, Inc.
by TerraCognito GIS, Inc.
January 2012



Existing Gas Well Pad
Proposed Gas Well Pad
Existing Gathering System
Proposed Gathering System
State Highway
Improved Paved Road
Improved Dirt Road
Unimproved Two-Track
Bull Mountain Unit
Township Boundary
Section Boundary
BLM Land
USFS Land
Water Feature

Bull Mountain Unit
Eck 12-90-1 Project
Site Map

0 0.5 1 Miles
1 in = 1 miles

Prepared for SG Interests, Inc.
by TerraCognito GIS, Inc.
January 2012

1.4 Access Roads & Traffic

Traffic would access the site from existing roads from the south. In order to handle the heavy weight and wide loads of drilling rig traffic, approximately 0.65 miles of road would need to be upgraded from their existing condition. Improved roads would have a 20 foot Right-of-Way, and improvements would include grading and blading the existing dirt and gravel roads, and surfacing with pit-run and road-base to a drivable 16-foot surface. All traffic to the pad site would utilize existing roads, including Highway 133 to the southern access road to the new road improvements and pad site. Daily traffic to the well site during active drilling would generally be pickup-trucks, but daily delivery of materials and pipe using larger delivery trucks will occur. Traffic to active drilling sites averaged 86 to 90 vehicle trips per day, and up to 115 (range 86 to 145) trips per day on more intensive drill sites (Sawyer et al. 2006). Post drilling, average vehicle trips dramatically drop to 3 to 6 trips per day. SG staff visits pads an average of once per day to check production, however intermittent maintenance, monitoring of the disposal well and trucking of condensate products could elevate the trips per day.

1.5 Produced Water and Natural Gas Pipelines

Natural gas pipelines and produced water pipelines would be constructed for approximately 0.65 miles to the south, where they would tie-into the existing Hotchkiss pipeline. Natural gas would flow through the existing pipeline network to the Bull Mountain Natural Gas Pipeline, and then to regional and national markets. Produced water would be re-injected on the pad site into the water disposal well for reinjection to suitable receiving formations.

1.6 Drilling Operations

A mobile drilling rig would be transported to the wellsite and erected on the pad. A conventional rig would be used, and would operate 24 hours per day. Additional equipment and materials needed for drilling operations would be trucked into the wellsite. Completion of well-drilling operations would involve the placement and cementing of well casing. The casing and cementing program would be conducted as approved to protect and/or isolate all usable water zones, potentially productive zones, lost circulation zones, abnormally pressured zones, and any prospectively valuable deposits of minerals. Placement of steel casing (casing the hole) would entail the insertion of a continuous steel pipe into the drill hole. The casing would extend from the bottom of the hole to the surface. Casing would be set in the hole, one joint at a time, threading one piece into a collar on the next.

The casing would be cemented into place by pumping cement into the casing head, down through the casing string to the bottom, and then up through the spacing between the casing and the well bore (annulus) back up to the surface. Cementing the annulus around the casing pipe restores the original formation isolation by posing a barrier to the vertical migration of fluids between rock formations within the borehole, protects the well by preventing formation pressures from damaging the casing, and retards corrosion by minimizing contact between the casing and corrosive formation fluids.

All drilling operations and other wellsite activities would be conducted in compliance with applicable Colorado Oil and Gas Conservation Commission (COGCC) rules. Approximately 2,500 barrels (bbls), or 0.32 acre-feet (ac-ft) of water would be required for drilling and for cement preparation.

Materials generated during drilling would include drill cuttings, drilling fluids, and additives used to maintain circulation and reduce borehole caving. Drilling fluids and mud additives would be recirculated into the well during drilling. Drill cuttings would be extracted from the drilling mud and placed in the reserve pit. COGCC requires that reserve pits be dried out and reclaimed within one year

of completion of drilling activities. Mud products on site during the drilling process include bentonite, barite, soda ash, lime, polymer, lignite, and lost circulation material.

Well Completion and Stimulation — After drilling and casing of the well are completed, a completion program would be initiated to stimulate production of natural gas and to determine gas and water production characteristics. A mobile completion rig (also called a "workover rig") similar to the drill rig is used to complete a well. The well completion process, lasting 8–10 days, includes perforating the well's steel casing and cement, hydraulically fracturing the producing formation, and installing a series of valves and fittings on the wellhead.

Chemical Use and Spill / Waste Management — The project would use a variety of chemicals including solvents, lubricants, paints, and additives. A list of chemicals used during drilling, completion and production is available from the SG operations office located in Montrose, Colorado. The listing identifies the chemical, whether or not the substance is stored in the field or at the company warehouse, the amount stored if applicable, and the chemical's common application. None of the chemicals proposed for use meet the criteria for a hazardous materials/substances per BLM Instruction Memorandum No. 93-344.

The Operator has prepared and implemented an Emergency Response Plan for containment and control of oil and chemicals used in the Bull Mountain Unit, as well as fire prevention and protection and emergency reporting. Procedures outlined in the Plan are applicable to all SG personnel and subcontractors. In accordance with the Plan, SG personnel are trained to conduct routine inspections of the containment areas and to promptly contain and clean up any accidental spills.

2 Existing Conditions

As previously mentioned, the access road to the pad site already exists as a graded, native soil road. The project area around the Hughes Project is a privately-owned working cattle/sheep ranch. No cattle or sheep are grazed during the winter/spring months on the ranch. The area is dominated by sagebrush steppe habitats.

3 Wildlife Species Considered

Information on species status, distribution, and ecology was derived from USFWS recovery plans, Colorado Natural Heritage Program maps and reports, Colorado Division of Wildlife (CDOW) habitat mapping, various scientific studies and reports, and field reviews. The CDOW's list of Threatened, Endangered, and Species of Concern for Gunnison County was referenced to determine if any species had potential habitat on or adjacent to the property. Additionally, the US Fish and Wildlife list of Threatened and Endangered Species was used to determine if any species potentially occurred within or adjacent to the project site.

Research was conducted by Rocky Mountain Ecological Services, Inc. (RMES) to determine relevant habitat associations, life history traits, the rangewide or statewide distribution of known populations, and current status and trend of each species. Species in **Bold** have been selected for additional evaluation due to direct, indirect, or cumulative impacts.

3.1 Table 2: CDOW Species of Concern Considered/Evaluated

Species	Occurrence	Habitat Association	Potential Habitat in Project Area?	Surveys Warranted?
BIRDS				
American peregrine falcon *(Falco peregrinus anatum)*	Widespread throughout Colorado	Nest on cliffs, forage over forests and shrublands	No	No
Bald eagle (*Haliaeetus leucocephalus*)	Widespread throughout Colorado	Forages by roosting along larger rivers, stream and waterbodies, also around big game winter ranges	No	No
Burrowing owl (*Athene cunicularia*)	Mostly found in eastern grasslands, some occurrence on west slope	Arid grassland and shrublands	No	No
Ferruginous hawk *(Buteo regalis)*	Migrant in Colorado on large grassland areas	Grasslands and semi-desert shrublands, winter resident	No	No
Greater sage-grouse *(Centrocercus urophasianus)*	Widespread historic records on forest; Currently in northern Summit Co. and adjacent to Eagle and HX Dist in Routt and northern Eagle County	Large sagebrush shrublands	No	No
Least Tern (*Sterna antillarum*)	Larger Reservoirs in southeast Colorado	Large waterbodies	No	No
Lesser Prairie Chicken (*Tympanuchus pallidicinctus*)	Extreme southeastern Colorado	Great plains grasslands and shrublands	No	No
Long-billed curlew (*Numenius americanus*)	Larger reservoirs and river systems in Colorado, mostly on eastern plains	Beaches, reservoirs	No	No
Mexican Spotted Owl (*Strix occidentalis lucida*)	Southwestern Colorado and east of Colorado Springs	Canyons with mixed conifer old growth	No	No
Mountain Plover (*Charadrius montanus*)	Eastern plains of Colorado	Summers on eastern plains in native short-grass steppe, winters in S. California & Mexico	No	No
Piping Plover (*Charadrius melodus*)	Larger rivers on eastern plains of Colorado	Sandbars and beaches along larger rivers in eastern Colorado	No	No
Plains Sharp-Tailed Grouse (*Tympanuchus phasianellus*)	Extreme northeastern Colorado	Grasslands, river canyons	No	No
Southwestern Willow Flycatcher (*Empidonax traillii extimus*)	Extreme southwest Colorado, and Rio Grande River	Brushy riparian habitats at lower elevations	No	No
Western Snowy Plover (*Charadrius alexandrinus*)	Extreme eastern Colorado	Sandy beaches and barrens	No	No
Western Yellow-Billed cuckoo (*Coccyzus americanus*)	North Fork of Gunnison, Colorado, Dolores, Yampa and Rio Grande rivers	Large cottonwood stands along larger rivers	No	No
Whooping crane (*Grus americana*)	Winters in southern US, summers in Canada, migrates through Colorado	Bosques in winter, marshes, ponds, bogs in Canada & Wisconsin	No	No
MAMMALS				
Gray wolf (*Canis lupus*)	**Northern Rockies**	**Woodlands, plains, mountains**	**Yes**	**No**

Species	Occurrence	Habitat Association	Potential Habitat in Project Area?	Surveys Warranted?
Spotted bat *(Euderma maculatum)*	**Low elevations on western slope, highest record was one on south rim of Glenwood Canyon**	**Montane forests, P-J open semidesert shrublands; rocky cliffs for roosts**	**Yes**	**No**
Black-footed ferret (*Mustela nigripes*)	Rio Blanco & Moffat Counties	Reintroduced to Rio Blanco County, in white-tailed prairie dog colony	No	No
Preble's meadow jumping mouse (*Zapus hudsonius preblei*)	Front range of Colorado north into Wyoming	Foothills riparian areas and along front range streams	No	No
Lynx (*Lynx canadensis*)	High mountain areas with large expanses of conifer forests in Colorado	Spruce/fir and lodgepole pine forests, sometimes aspen, shrublands	No	No
Wolverine (*Gulo gulo*)	**Historical documentation several locations in Colorado-likely extinct**	**Boreal forests and tundra- large ungulate populations important**	**Yes**	**No**
River otter *(Lontra canadensis)*	Widespread in larger montane river systems	Riparian habitats that traverse a variety of other habitats. Mainly larger river systems.	No	No
Kit fox (*Vulpes macrotis*)	Colorado and Lower Gunnison River valleys	Desert shrublands near Delta	No	No
Townsend's Big-eared bat *(Plecotus townsendii townsendii)*	**Documented in Colorado in several cave locations**	**Semidesert shrublands, P-J, open montane forests; caves and abandoned mine roosts.**	**Yes**	**No**
Black-tailed prairie dog (*Cynomys ludovivianus*)	Eastern plains of Colorado	Shortgrass steppe	No	No
Botta's pocket gopher (*Thomomys bottae*)	Lower elevations along Utah border and Arkansas Valley	Sandy soils of valley bottom riparian areas	No	No
Northern pocket gopher (*Thomomys talpoides marotis, T. t. rostralis and T. t. retrorsus)*	Subspecies are along Front Range of Colorado	Many various habitat associations	No	No
Swift fox (*Vulpes velox*)	Eastern plains of Colorado	Shortgrass prairie and riparian woodlands on plains	No	No
AMPHIBIANS				
Boreal toad *(Anaxyrus boreas boreas)*	Small disjunct populations across higher elevations in the State	Subalpine forest habitats with marshes, wet meadows, streams, beaver ponds, and lakes.	No	No
Couch's spadefoot toad (*Scaphiopus couchii*)	Arkansas River valley on eastern plains	Shortgrass prairie, mostly fossorial	No	No
Great plains narrowmouth toad (*Gastrophryne alivacea*)	Baca and Las Animas Counties	Rock-rimmed canyons with grasses	No	No
Northern cricket frog (*Acris crepitans*)	Eastern plains of Colorado	Muddy, sandy gently sloping wetland edges	No	No
Northern leopard frog *(Lithobates pipiens)*	**Common throughout mid-and lower-elevations of Colorado**	**Wet meadows, marshes, ponds, beaver ponds, streams.**	**Yes**	**Yes**
Plains leopard frog (*Rana blairi*)	Eastern plains	Ponds, marshes, wetlands on eastern plains	No	No

Species	Occurrence	Habitat Association	Potential Habitat in Project Area?	Surveys Warranted?
Wood frog (*Rana sylvatica*)	Northern Larimer, Jackson Counties, and Grand County	Montane ponds in forests	No	No
FISHES				
Arkansas darter (*Etheostoma cragini*)	Arkansas River drainage in eastern Colorado	Clear, shallow, spring-fed streams with moderate current and lots of rooted aquatic vegetation	No	No
Bonytail (*Gila elegans*)	No known populations remain in Colorado	Large, swift-flowing waters of the Colorado River system	No	No
Brassy minnow (*Hybognathus kankinsoni*)	Native to Republican and South Platte basins, possibly in Colorado River drainage	Moderately clear tributary streams with sand or gravel bottoms, also in small ponds	No	No
Colorado pikeminnow (*Ptychocheilus lucius*)	Colorado, Dolores, Green, Gunnison, San Juan, White and Yampa	Large, swift-flowing rivers that are seasonally turbid with warm backwaters	No	No
Colorado River cutthroat trout *(Oncorhynchus clarkii pleuriticus)*	Widespread localized reaches	Headwater streams and lakes	No	No
Roundtail chub *(Gila robusta)*	Colorado River through Glenwood Canyon, downstream on White River, Milk and Divide Creeks	Larger rivers of Colorado River basin	No	No
Common shiner (*Luxilus cornutus*)	South Platte basin	Lakes, rivers and streams, most common in the pools of streams and small rivers	No	No
Flathead chub (*Platygobio gracilis*)	Arkansas River basin	Main branches of turbid streams and rivers, fast currents with sand or gravel substrates	No	No
Greenback cutthroat trout (*Oncorhynchus clarkia stomias*)	Front Range mountain streams, recently on west slope	Montane clear, cold streams	No	No
Humpback chub (*Gila cypha*)	Green, Yampa and Colorado Rivers	Pools and eddies in areas of fast-flowing, deep, turbid water, often associated with cliffs and boulders	No	No
Iowa darter (*Etheostoma exile*)	Northeastern plains streams, Eleven mile Reservoir & Shadow Mountain Resrv.	Clear, slow flowing streams and lakes with undercut banks and some vegetation or algal mat	No	No
Lake Chub (*Couesius plumbeus*)	Boulder Creek and Cache la Poudre River	Lakes and large pools	No	No
Mountain sucker *(Catostomus platyrhynchus)*	Numerous small to medium streams below 8600' elevation.	Throughout west on both sides of Continental Divide-prefer clear cold creeks and small to medium rivers with rubble, gravel, or sand substrate	No	No
Northern redbelly dace (*Phoxinus eos*)	South Platte basin	Small slow-flowing streams and connected lakes with vegetation	No	No
Plains minnow (*Hybognathus placitus*)	Arkansas & South Platte basins	Main channels of rivers, also in pools below diversion projects	No	No

Species	Occurrence	Habitat Association	Potential Habitat in Project Area?	Surveys Warranted?
Plains orangethroat darter (*Etheostoma spectabile*)	Arikaree and Republican River drainages	Small, clear, spring-fed streams with sand, gravel or rocky bottoms and no silt	No	No
Razorback sucker (*Xyrauchen texanus*)	Lower Yampa and lower Colorado Rivers	Deep, clear to turbid waters of large rivers and reservoirs, with silt, mud, or gravel substrate. Quite, soft-bottom river backwaters	No	No
Rio Grande Chub (*Gila pandora*)	Rio Grande basin	Pools and streams with gravel substrate and overhanging banks and brush	No	No
Rio Grande cutthroat trout (*Oncorhynchus clarkia virginalis*)	Rio Grande basin	Clear, cold, swift moving creeks and streams in montane environs	No	NO
Rio Grande sucker (*Catostomas plebeius*)	Rio Grande basin	Stream obligate using slow moving reaches	No	No
Southern redbelly dace (*Phoxinus erythrogaster*)	Arkansas River basin	small, low-order streams where the habitat includes permanent springs, seeps, and mats of vegetation	No	No
Suckermouth minnow (*Phenacobuis mirabilis*)	South Platte and Arkansas River drainages	Shallow, clear riffles with sand and gravel substrates	No	No
Stonecat (*Noturus flavus*)	South Platte and Republican basins	Fast riffles and runs in streams with sand or gravel bottoms with some rocks- found under rocks and debris	No	No
REPTILES				
Triploid Checkered whiptail (*Cnemidophorus neotesselatus*)	Arkansas drainage in Eastern Colorado	Hillsides, arroyos and canyons associated w/ Arkansas River valley	No	No
Midget faded rattlesnake (*Crotalus viridis concolor*)	Lower elevations in western Colorado	Semi-arid shrublands, rocky arroyos, max. elevation around 5,000'	No	No
Longnose leopard lizard (*Gambelia wislizenii*)	Extreme western Colorado, along Utah boarder	Flat or gently sloping shrublands & desert plains	No	No
Yellow mud turtle (*Kinosternon flavescens*)	Republican, Arkansas and Cimarron River drainages below 5,000'	Permanent and intermittent streams, ponds, isolated ponds and surrounding grasslands	No	No
Common king snake *(Lampropeltis getula)*	Extreme southwest and southeast Colorado	Low elevation, semi desert shrublands, and around waterways below 5,000'	No	No
Texas blind snake (Leptotyphlops dulcis)	Extreme southeast Colorado	Canyon sideslopes in shrubby, arid habitats	No	No
Texas horned lizard (*Phrynosoma cornutum*)	Southeast Colorado	Plains and grasslands, with large patches of bare ground	No	No
Roundtail horned lizard (*Phrynosoma modestum*)	One cluster of records from Otero County	Short grass steppe with large patches of bare ground	No	No
Common garter snake (*Thamnophis sirtalis*)	Northern Front Range	Marshes, ponds and edges of streams	No	No
Massasagua (*Sistrurus catenatus*)	Southeast Colorado below 5,500'	Dry plains grasslands and sandhills	No	No

Species	Occurrence	Habitat Association	Potential Habitat in Project Area?	Surveys Warranted?
MOLLUSKS				
Cylindrical papershell (*Anodontoides ferussacianus*)	Boulder County	Headwater creeks and streams with silty/muddy substrates	No	No

3.2 Table 3: USFWS Listed Species in Gunnison County

Listed or candidate wildlife, fish and plant species that were considered and evaluated for this assessment include those identified by the U.S. Fish and Wildlife Service as potentially occurring in Gunnison County (IPaC - Information, Planning, and Conservation System website accessed December 3, 2011). None of the species listed by the USFWS occur in the project area, or would be directly, indirectly, or cumulatively impacted by this project. Therefore, no further discussion regarding these species is warranted.

Species & Status	Occurrence	Habitat Association	Species Range or Habitat in Project Area? (Yes/No)	Surveys Conducted
MAMMALS				
Canada lynx (FT) *(Lynx canadensis)*	High mountain areas with large expanses of conifer forests in Colorado	Spruce/fir forests, sometimes aspen, lodgepole & shrublands	No	No
Gunnison's prairie dog (FC) (*Cynomys gunnisoni*)	Southcentral Colorado and northern New Mexico	Montane and high desert grasslands & shrublands	No	No
Wolverine (FC) (*Gulo gulo luscus*)	**Extremely rare visitor from Wyoming populations**	**All- however more associated with higher elevations**	**Yes**	**No**
BIRDS				
Gunnison sage-grouse (FC) (*Centrocercus minimus*)	Crawford area, Gunnison Basin	Sagebrush steppe	No	No
Yellow-billed cuckoo (FC) *(Coccyzus americanus)*	North Fork of Gunnison, Colorado, Dolores, Yampa and Rio Grande rivers	Large cottonwood stands along larger rivers	No	No
FISHES				
Colorado pikeminnow (FE) *(Ptychochelius lucius)*	Occurs in the mainstem of the Colorado, Gunnison and Yampa Rivers in Colorado, downstream through Utah	Colorado River; Green River, Lower Yampa & White Rivers	No	No
Razorback sucker (FE) *(Xyrauchen texanus)*			No	No
Humpback chub (FE) *(Gila cypha)*			No	No
Bonytail chub (FE) *(Gila elegans)*			No	No

Species & Status	Occurrence	Habitat Association	Species Range or Habitat in Project Area? (Yes/No)	Surveys Conducted
Greenback cutthroat trout (FT) (*Oncorhynchus clarki stomias*)	Recent genetic testing has indicated that this species occurs on the western side of the Continental Divide	Clear, cold running mountain streams	No	No
INSECTS				
Uncompahgre fritillary butterfly (FC) *(Boloria acrocnema)*	Alpine habitats in San Juan Mountains of southwestern Colorado	Needs snow willow (*Salix nivalis*) habitats above treeline	No	No
FLOWERING PLANTS				
Colorado hookless cactus (FT) *(Sclerocactus glaucus)*	Deserts near Delta	Alluvial benches around lower Gunnison River	No	No
Skiff milkvetch (FC) (*Astragalus microcymbus*)	South of the Town of Gunnison	Sagebrush steppe	No	No
[1] Status Key: FE= Federally Endangered: FT= Federally Threatened: FC= Federal Candidate Species				

3.3 Species Excluded from Further Analysis

If there is no potential habitat in the project area then the species in question were excluded from further analysis. Some species with potential habitat in the project area were also excluded from further analysis; the reasons for dismissing them are presented here.

Greater sandhill crane (State Species of Concern [SC]) has been observed to migrate through the area in the spring and fall, and intermittently stop in meadows and riparian areas to feed during their migration. This project would have no significant impact to sandhill crane's ability to migrate through the area due to the insignificant impacts to potential surface use in the greater area.

There are currently no **gray wolf** populations within the state. In 2009 a confirmed sighting of a female wolf occurred in northern Colorado, but she was shot and killed. As gray wolves do not occur in the area of northern Gunnison County, and this project would have no direct impact on wolves (as wolves do not occur in the area) nor would this project affect their ability to disperse into Colorado, this project would have no impact to gray wolves.

The following section details considerations for the wolverine, the Colorado River endangered fish, and greenback cutthroat trout.

3.4 Species Considered

The following wildlife species either had habitat on or adjacent to the project location and/or they may be affected by the proposed project:

- Wolverine
- Colorado River endangered fish species
- Mule deer
- Elk
- Black bear
- Bat species
- Northern leopard frog

3.4.1 Wolverine (*Gulo gulo luscus*)

Status: Federally Threatened, CDOW Species of Concern

Considered critically imperiled in Colorado, the North American wolverine occurs over a large range in northern Canada and Alaska, where populations are probably in good condition (Ruggiero et al. 1994). Wolverine has been extirpated from most of its historic range in the contiguous 48 states, with promising signs of semi-recovery in selected western states. Outside of Alaska, Montana has the largest population in the U.S. In Colorado, records from the 19th century indicate that populations were never very high. Recent CDOW surveys failed to find any definitive wolverine signs in the State (Fitzgerald et al. 1994).

The project area occurs mostly within an area closely associated with human habitation and various agricultural activities (e.g., hay production, sheep and cattle ranching), and while elk herds and forested habitats in the greater area provide habitat and foraging opportunities, the moderate levels of human activity and livestock operations may make these areas ineffective for wolverine. The high levels of motorized and non-motorized use of the greater Colorado landscape would likely diminish its suitability for long-term or significant wolverine use, based on the literature.

SG's activities in the development of the Eck Project would have a very small direct impact on wolverine habitats; the additional long-term habitat impacts are relatively negligible at the scale of the Bull Mountain Unit, and are discountable at the scale of a wolverine's home range. The development of these facilities would not impact prey availability or produce barriers to movement for wolverine. Indirect effects would have long-term impacts on otherwise-available (but in all likelihood unoccupied) habitat. SG's low levels of use of roads and pad sites would continue to occur, which would incrementally make habitats in the project area less effective, but the Muddy Creek basin is already likely poor potential habitat for wolverine.

The Eck Project site would have no long-term adverse effects to future recovery efforts. A future recovery effort, which would be the only way a self-sustaining population could be reestablished in the southern Rockies, is not reasonably foreseeable at this time.

3.4.2 Colorado River Endangered Fish

Status: Federally Endangered

The four endangered fish species existing in the Colorado River are generally found below the Rifle/DeBeque area, near Grand Junction and further downstream. Some fish may be found along lower reaches of the Gunnison River, from Delta downstream towards Grand Junction. The US Fish and Wildlife Service lists the humpback chub (*Gila cypha*), bonytail chub (*G. elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), and razorback sucker (*Xyrauchen texanus*) as endangered under the Endangered Species Act. Endemic to the Colorado River Basin, populations of these fishes had declined throughout their historic range due largely to habitat loss or habitat degradation (mainly through dams and water diversions) and introduction of competitive and predatory nonnative fish species. The Upper Colorado River Endangered Fish Recovery Implementation Program was established in 1988 with the goal of recovering these four endangered fishes in the face of current and foreseeable future water depletions from the Upper Colorado River Basin.

This project will have no net water depletions associated with the drilling and completion of the well as produced water would be utilized to fill the pits and for frac'ing. If produced water is not utilized, and irrigation water is utilized, SG Interests has a water augmentation plan in place redirecting agricultural waters for instream flow, therefore the project would have no indirect impact on water resources or habitats required by Colorado Pikeminnow, razorback sucker, humpback chub, and bonytail chub.

Informal consultation with US Fish and Wildlife Service has begun over this augmentation plan. SG Interests is implementing Best Management Practices and a Stormwater Management Plan that is designed to minimize sedimentation. The project is sufficiently distanced from the Gunnison and Colorado Rivers and occupied habitats that incidental sediment delivery to local streams would be adequately diluted with background waters so that no realized sedimentation would have any measureable impacts to the fish. Therefore, this project would have no impact on these species or their habitats. Augmentation and signing the Recovery Agreement is considered compensatory mitigation, and SG Interests has signed the Recovery Agreement (2008).

3.4.3 Mule Deer (*Odocoileus hemionus*)

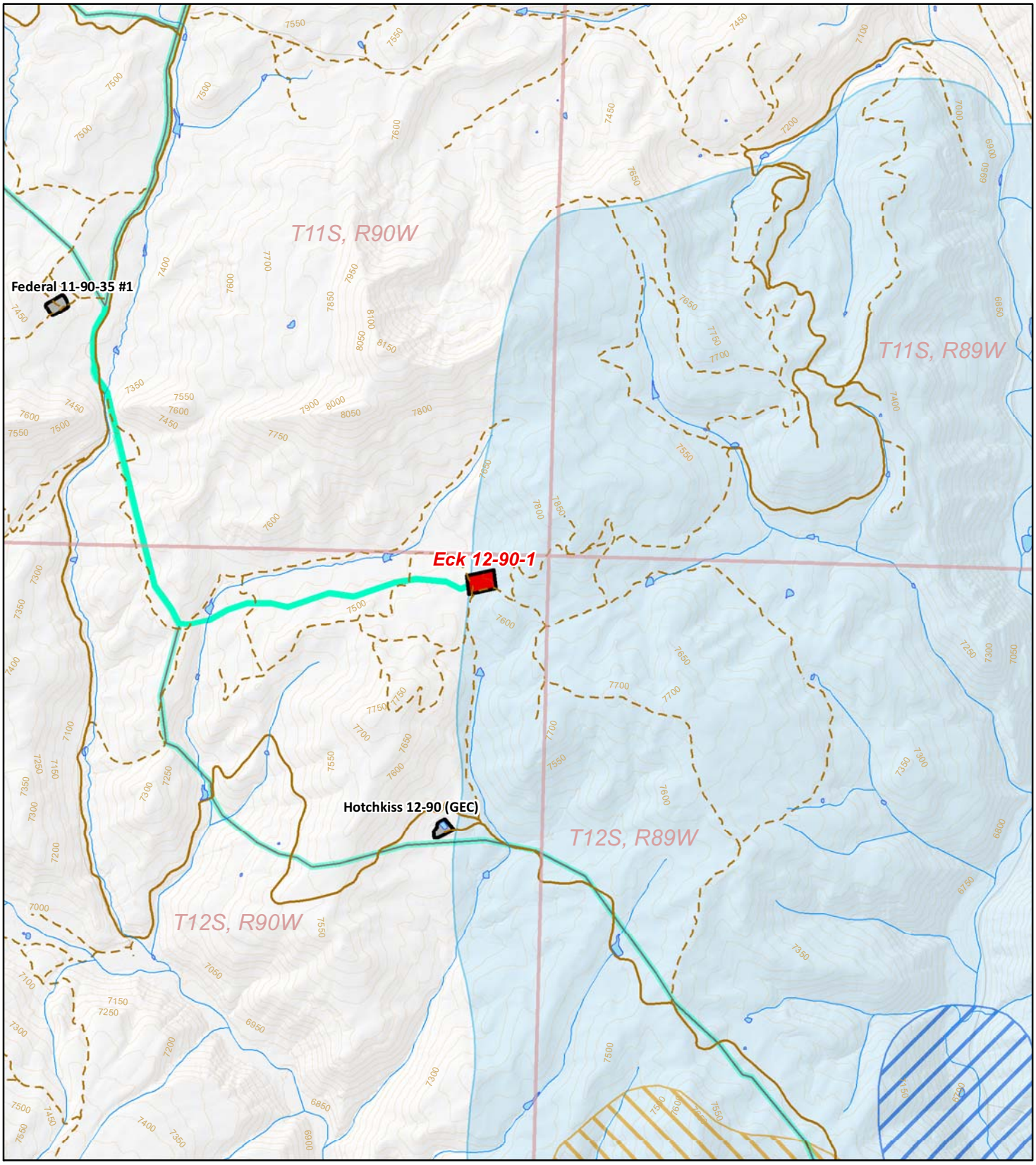
To summarize, the project area is located at the edge of an area mapped as mule deer Winter Range. The project is not located in a Winter Concentration area, or Severe Winter Range, as mapped by CDOW NDIS data. Deer activity would be more common on south facing slopes and not in the draw where the road and pad would be located, but the presence of the road and pad would still make adjacent habitat less effective. Deer use of the site occurs during the summer months, and the site is mapped as Mule Deer Summer Range by CDOW NDIS mapping. Some fawning likely occurs in the general area, given the suitable Gambel's oak habitats (which provide good cover), and abundant water sources from stock ponds and ephemeral creeks.

The largest impact to mule deer will come from decreased use of otherwise available habitats around the access road and the pad site itself (indirect impacts) through avoidance due to high levels of traffic, nighttime lighting, noise and human activities. However, simply stating that observed behavior responses may occur does very little to quantify potential impacts to fitness (i.e. fawn:doe ratios, population levels, survival). Further, as pre-development population status and population parameters are not available within the Muddy Creek basin, and the ability to track changes in deer populations solely from natural gas development activities would be difficult at best, quantifying the impacts to populations and deer fitness is not possible at this time. Therefore, indirect impact determinations are based on available literature and professional opinion.

While there will be decreased deer use of habitats around access roads and the existing pad site, there are ample summertime foraging and security habitats in the surrounding area for deer at this time. Some impacts to mule deer would occur during the drilling period which would coincide with summer foraging seasons, and during the winter months. Post-drilling, SG staff would likely visit the pad site once a day (at least) during the winter months to check on well operations.

Traffic and human activities in the vicinity of the access roads and pad would have an indirect impact reducing the ability for mule deer to utilize habitats around the site. Mule deer will continue to use, migrate through, and may even been seen very close to the pad and access roads, but existing literature indicates that mule deer utilization of habitats near pad sites and roads decreases after development, (Sawyer et al. 2006). Because of the small size of the project, and its location in a draw and low-lying areas, prime mule deer winter range would not be impacted. However, mule deer may still avoid otherwise available habitats in the area. During the winter months mule deer avoiding the area due to vehicle traffic to the pad and along access roads would likely cause deer to move away from the road and pad. This would have the effect of causing deer to expend more energy in procuring forage, and could place deer in less desirable habitats. This could cause deer to have lower post-winter weights, and would place more energetic burdens on wintering deer in the area. Given the size of the project, its location, and surrounding habitats, this project would have minor impacts on mule deer and their habitat availability. Because of other available foraging and security habitats in the area, it is not expected that this project would decrease deer populations or fitness in the area. Because of slow road

speeds in the area deer would not likely be at risk from collision. Impacts to deer on Highway 133 are already likely occurring given the high speeds of the road, and the 1,400 vehicles per day using the highway. Cumulatively, the foreseeable development of the Bull Mountain Unit and gas fields in the Muddy Creek basin would have more extensive direct and indirect impacts to mule deer and their use of otherwise available habitat in the area, especially during the construction and drilling phases. This project would add to other projects in the area in reducing habitat effectiveness and availability for deer. While this one individual project would not likely cause measureable impacts to deer fitness, it may contribute with other projects in the area that may cause decreased deer densities in the area, and less mule deer use of available winter ranges in the Unit.



Proposed Gas Well Pad
Existing Gas Well Pad
Existing Gathering System
Proposed Gathering System
Winter Range
Severe Winter Range
Winter Concentration Area
Water Feature
Township Boundary
Improved Dirt Road
Unimproved Two-Track
50-foot contour

Bull Mountain Unit
Eck 12-90-1 Project

Mule Deer Winter Range

0 0.25 0.5 Miles
1 in = 2,000 feet

Disclaimer: This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Prepared for SG Interests, Inc.
by TerraCognito GIS, Inc.
January 2012

3.4.4 Elk (*Cervus elaphus*)

This site is not within CDOW mapped summer range, but some individual elk do occur in nearby aspen and Gambel's oak stands during the early summer months. As the summer progresses, virtually all elk move to higher habitats outside of the project area. During the spring and fall months, more elk activity in the area occurs. The pad site and visitation to the site by people would reduce the ability of elk to use the area during the daylight hours, when vehicle traffic and human activities on the pad occur. During the nighttime hours, one would expect that elk would continue to utilize the area. The site is within elk Winter Range, Severe Winter Range, and a Winter Concentration Area. Based on on-site visits to the area, elk begin to use the area in early November, utilizing both north and south-facing slopes. As winter progresses and snows become deeper, elk congregate on south facing slopes in the area, and particularly on south facing slopes of Bull Mountain to the north of the project area. The actual drilling and associated traffic, noises, and lighting would have no impact on elk as these activities would occur prior to the winter season. In the spring when elk do linger in the area, daily traffic to the pad site for inspections would likely cause elk to move out of the area to the west, up into higher elevations with no human activities.

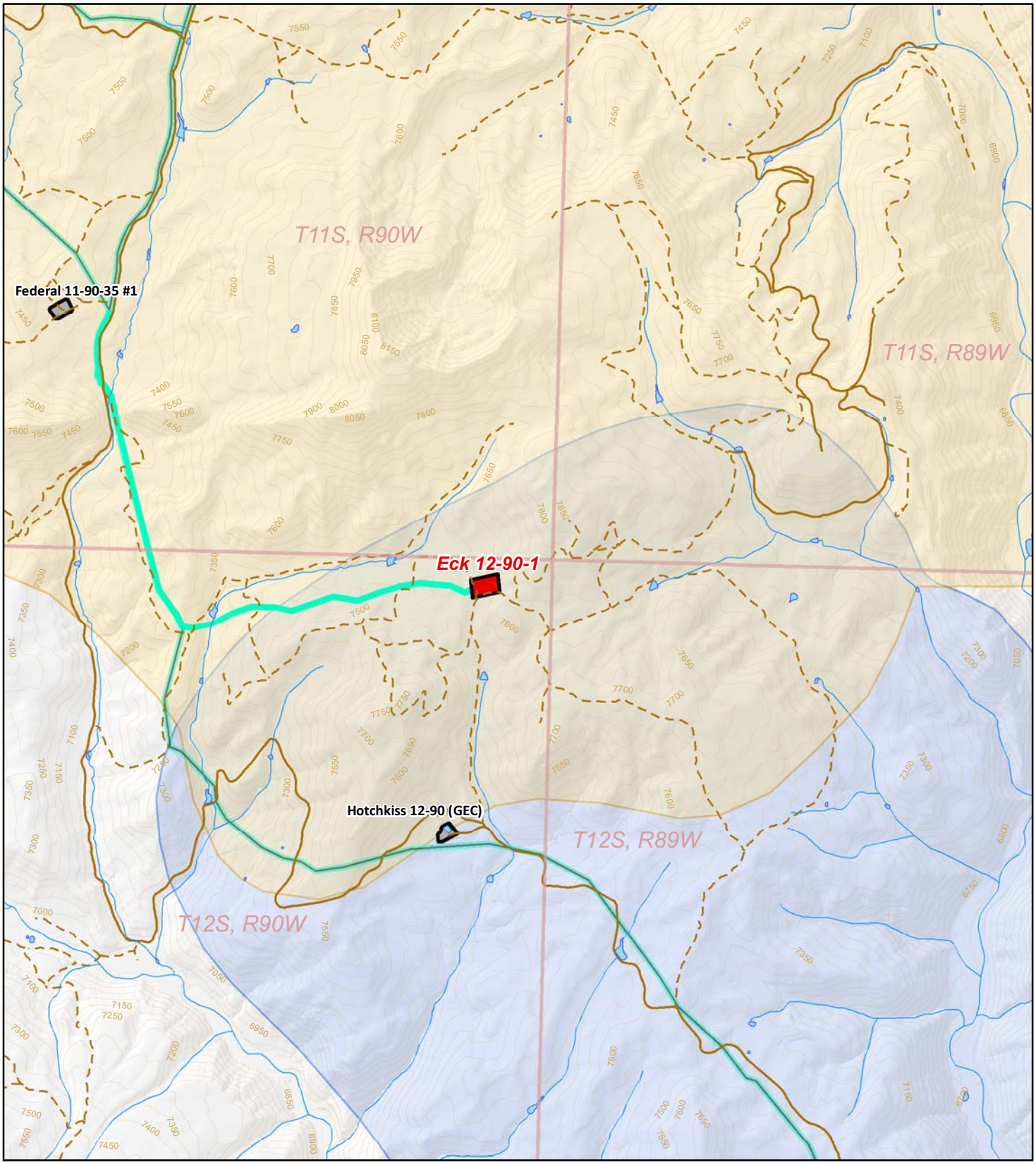
During the winter months, elk would likely avoid the habitats around the access road during the daylight hours due to traffic and human activities. Elk would still likely use habitats during the nighttime hours. To the north of the project area is the critical winter ranges on the south facing slopes of Bull Mountain. While elk are less wary during the winter months, some elk may move further away from the pad site, but given the distance to the pad from the winter habitats on the hillside (approximately 0.3 miles), some elk may move further away from the pad, but some elk may continue to use winter range habitats unaffected by human activities on the pad site. It would be anticipated that while elk may not necessarily loose quality habitats from this project, it would increase elk stress levels and possibly energy expenditures during critical winter and spring seasons, when elk are already on an energy-deficient diet. These indirect impacts could cause elk to congregate on less-optimal winter ranges, have changes in feeding habits, and increase stress levels. This would result in lowered post-winter weights of elk, but one would not expect to see decreased fitness or overall population declines from this one project. As the pad site is so close to critically important habitat, it would be very important that SG staff and visitors did not approach winter ranges during the critical winter periods, as this could cause elk to flee the area or have very high temporary energy expenditures.

In summary, the project is close to critical winter ranges on the south facing slopes of Bull Mountain. As these habitats are 1/3 miles from the pad site, elk would likely continue to use habitats, but some minor impacts to elk foraging behaviors and stress levels would occur. It would be extremely important that human activities do not encroach any closer to habitats on south facing slopes. As most elk have left the area for the summer, drilling and maintenance operations would have very little to no impact to elk. Elk may be able to habituate to some human activities, but if human activities encroach on winter ranges then elk may abandon nearby habitats, which would have detrimental impacts to elk in the area.

Within the larger DAU-E-14 area, the cumulative loss of habitat and increased traffic levels within public and private lands did produce measurable decreases in elk fitness expressed through a reduction in calf:cow ratios in the early 2000s (CDOW 2009 & K. Giezentanner USFS 2004), but these ratios are appearing to be rebounding based on 2009 data. This rebound may be from wetter seasons (and more available forage), less natural gas exploration and development activities, less intraspecific competition due to lower overall populations, or a combination of all three factors. At this time the level of natural gas exploration and development in the Muddy Creek basin is not likely producing impacts to a level where changes in elk fitness or population levels would occur. There is likely to be some threshold at

which road development and use, drilling and construction, and associated human activities could rise to a level where changes in elk migration and habitat use patterns would occur, and at that time the literature suggests that these stresses would begin to have impacts to elk fitness.

After construction, automization of the Eck pad site and minimizing human visits and activities at the pad during the spring months is probably the most important step in minimizing indirect disturbances to elk wintering and passing through the area.



Proposed Gas Well Pad
Existing Gas Well Pad
Proposed Gathering System
Existing Gathering System
Winter Concentration Area
Severe Winter Range
Water Feature
Township Boundary
Improved Dirt Road
Unimproved Two-Track
50-foot contour

Bull Mountain Unit
Eck 11-90-1 Project

Elk Winter Range

0 0.25 0.5 Miles
1 in = 2,000 feet

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Prepared for SG Interests, Inc.
by TerraCognito GIS, Inc.
January 2012

3.4.5 Black Bear (*Ursus americanus*)

Black bear has become a significant wildlife management issue in the State of Colorado. Bears are commonly supplementing their diets by raiding garbage cans, breaking into homes, and becoming a hazard and a nuisance. Habitat around the Eck Project is dominated by mixed shrublands which is good habitat and bears do occur in the general area.

This project would have minor to insignificant impacts on bear populations or bear habitat, but SG Interests would use bear-proof trash containers per COGCC rule 1204.a.1.

3.4.6 Townsend's Big-eared Bat (*Corynorhinus townsendii pallescens*)

Status: BLM Sensitive Species, CDOW Species of Concern

Bats potentially found in the project area include Townsend's big-eared bat (*Corynorhinus townsendii pallescens*) and spotted bat (*Eudorma maculatum*). These bat species may forage over shrublands typified by the mixed mountain shrublands occurring within the lower elevations and south-facing slopes of the project area. However, these bat species require nearby rock outcrops, caves, mines (abandoned or active), or old home sites for shelter. Rock outcrops occur at the southern end of the Unit, near the West Muddy Creek and East Muddy Creek canyons, but no direct or indirect impacts to these outcrops would occur. Old homesites, barns and outbuildings occur throughout the Unit, however these structures are mostly along SH 133, CR 265, and also, and the Eck Project would not be near homes (pads are actually sited to be away from structures).

As all excavation, road construction, pipeline construction, and rig setup and rig-down operations would occur during the daylight hours, and would not be coincidental with nocturnal bat activity periods there should be no indirect impacts to bat roosting or foraging activities from those operations.

Drilling operations with bright lights may attract prey species and may also attract these bat species. They may fly into cables or other drilling equipment, but this is highly unlikely given their reputation as being methodical and very good flyers (as evidenced by their ability to catch flying insects much smaller than guy-wires on rigs). The open cuttings pits left after drilling activity would not encourage bat foraging around the area, as these ponds would not likely produce flying insects. However, during the summer months (when bats are active), bats need readily available water for drinking, and any surface waters or fluids may attract bats. Un-netted pits or ponds would likely attract bats looking for drinking water, and therefore netting during the summer months would be extremely important to prevent bats from drinking fluids in pits/ponds.

These bat species may end up migrating across or through the project area, and may actually forage within the project area. As this project would have negligible impacts to shrubby habitats on the landscape scale, the ability for these habitats to support the bat's primary prey species (flying and crawling insects) would continue. Therefore there should be no impact to the bat's ability to procure prey within the project area.

The proposed activities would not occur near any caves or mines, and significant bat use of the area near operations by these species would be considered to be uncommon given the elevation of the area (aside from Townsend's big-eared bat). Potential impacts to these bats would likely be minor given the limitations presented by the high elevation of the site, and a lack of widespread roosts.

3.4.7 Northern Leopard Frog (*Lithobates pipiens*)

Status: CDOW Species of Concern

The pipeline from the Eck pad to the existing Hotchkiss pipeline would cross suitable and occupied leopard frog habitats, and wetland habitats near the Eck pad (e.g., stock ponds) are known to contain leopard frogs. These wetlands have not been formally delineated at this time, but based on relatively accurate high-resolution aerial photo interpretation and on-site visits; approximately 0.25 acres would be directly impacted by pipeline crossings. However, SG has construction contractors reduce the width of ROWs when crossing wetlands, therefore the actual amount of impacts to wetlands would be much less than 0.25 acres. Wetlands crossed by pipelines are reclaimed, replanted, and reseeded with local native species similar in composition to existing conditions, as required by U.S. Army Corps of Engineers (USACE) permitting. The majority of the Eck Project is located within upland habitats, which does not provide good leopard frog habitat. Therefore, there should be no long-term net loss of wetlands from pipeline construction activities. Crossing of occupied wetlands would likely cause direct impacts (mortality) to individual frogs (which may be up to 20 frogs), but these impacts would not occur at a scale which would affect frog populations or the long-term suitability of the area for frogs at the project level.

Indirect impacts could come from traffic along access roads during the summer months (frogs hibernate from October through early May). As most frog movements occur during the nighttime hours, their movement periods are not coincidental with daytime human activity periods. Traffic to or from a pad site during the nighttime hours could trample frogs crossing roadways. This may impact individual frogs, but would not impact populations in the area.

Indirect effects to down-gradient ponds and ponded wetlands could occur from increased siltation or fine sediment delivery from access roads (no sedimentation from the pad site would be anticipated given the distances from the pad to frog habitats). Sedimentation of breeding ponds and overwintering sites could have the result of burying eggs and hibernating frogs in silt, resulting in decreased hatching success, and decreased overwintering survival of frogs. The proper and timely use of BMPs would need to occur, especially in the spring when snowmelt and soft roads often mobilizes sediments, and BMP crews are not usually active. Based on current practices, there is a good chance that some isolated sedimentation events would occur which could affect foraging habitats during the spring and fall periods.

Spills and leaks (e.g., diesel, oil, hydraulic fluids, acids, etc.) on roads, pipeline corridors and the pad site may wash into riparian systems and leopard frog habitat if not cleaned up or if BMPs are not properly maintained. Chemicals and other substances could reduce frog fecundity and increase mortality rates. Based on COGCC regulations and County guidance, SG and their contractors are required to clean up any spills on roads and pad sites, thereby reducing the potential impacts to frogs. Nevertheless, some amounts of chemicals and substances poisonous to frogs may make their way into frog habitats. Because of the proximity to wetlands, ponds, and frog habitat, and the water solubility of many substances on pad sites, this risk to frogs is moderate from the Eck Project site. The cuttings pits on the pad site is to be lined, and is to have adequate freeboard to ensure fluids or materials do not leave the pit. It would be very important that these requirements are followed. Punctures to pit liners may also occur, which could allow substances toxic to frogs and aquatic resources to leave the pad site. Chemicals and substances which may be part of typical natural gas development activities are tested for in nearby waters in accordance with COGCC and Gunnison County Regulations to help detect any contamination or issues for quick rectification.

Water for drilling, cementing, and frac'ing may come from the Aspen Leaf and Ault Reservoirs, which provide frogs with overwintering, breeding, and foraging habitats. Water may also come from these

reservoirs, but would then be stored in SG's newly constructed McIntyre Flowback Pits 3 & 4, which do not provide habitat for frogs. As the drilling period for most wells is not until the spring, and large water volumes are not needed until later in the summer for frac'ing, frog larvae (tadpoles) should be hatched and be able to swim to stay within wetted areas of native reservoirs if water withdrawals from reservoirs occur. Water withdrawals which lower the water level in the reservoirs during the spring (April through mid-May) may cause frog eggs to become exposed to the air and desiccate. Some frogs or larvae may also be caught in suction screens causing direct mortality. Lowered water levels in reservoirs would cause a drying of wetland habitats around the perimeter of the reservoir which would negatively impact foraging opportunities for frogs. These habitat impacts from water use may reduce population densities of frogs in the area, but should not have long-term impacts to frog populations.

In summary there will be the potential take of individual frogs from trampling or direct mortality during summer construction and development periods. There is also the potential for substances hazardous to frogs to leave pad sites, especially if pits and pad drainage are not properly designed. Some temporary diminished habitat effectiveness in wetlands crossed by pipeline ROWs and potential indirect impacts from stormwater sedimentation impacts to wetlands from roads and pipeline ROWs may occur. As northern leopard frogs are hibernating during the winter months, activities on roads and pads (i.e., wintertime operations) would have no impact to frogs. Therefore the development of the Eck Project may adversely impact individuals, but is not likely to result in a loss of viability on the planning area, nor cause a trend to federal listing or a loss of species viability rangewide.

Summary of Impacts to Wildlife

Project implementation would result in approximately 2.5 acres (when including topsoil storage) of new direct and permanent impacts to meadow and shrubland habitats. There would be approximately 10.9 acres of temporary impacts from pipeline construction, which would temporarily convert existing vegetation profiles to a grass/forb dominated system. Approximately 120 acres of habitat would be indirectly impacted by noise and human activity on the pad site during the drilling, well completion and long-term use of the access road. After well completion, low levels of traffic to the pad site would be expected throughout the year during the daylight hours, which could have minor impacts to wintering big game species in the area, and impacts to a broader range of species during the summer months. Mobilization of fine sediment along the access road could be an issue for aquatic resources given the proximity to wetlands and waterways. BMPs would need to be diligently monitored and maintained to prevent impacts to aquatic resources.

Proper construction of pits and careful management of pad surface runoff would be very important to reduce the risk of substances hazardous to aquatic life from reaching surface waters and wetlands. The drilling and well stimulation process uses chemicals which are hazardous to wildlife, but they would have no impact wildlife habitats through frac'ing given SG's well completion plan. However, spills or improper storage of materials on the pad surface would be of concern. SG has a water quality monitoring program to ensure any leaks or contamination of surface waters are detected.

Wildlife dispersal activities would still likely occur on or adjacent to the road and well pad site. All of the species occurring within the areas to be indirectly affected by this project have widespread habitats in the area; this project would not affect any critical or constrained habitat types. Therefore, most species indirectly affected by temporary decreased uses in habitat would have other habitats in the greater area still available to them for foraging, reproduction, dispersal, and shelter. This project would likely impact individuals of various species, but would not significantly impact populations. This project, while being small in size, would cumulatively add to other activities impacting wildlife and wildlife habitats in the greater area.

4 Recommended Impact Minimization and Mitigations

The following sections present recommendations for consideration to minimize the potential impacts to wildlife from the proposed development. Many of these recommendations are considered to be "best management practices" for wildlife, which would allow for continued wildlife use of the area.

4.1 Fences

Fencing that is needed to keep wildlife away from open pits or infrastructure is encouraged. Fencing around the pad to help speed stabilization and reclamation is encouraged.

4.2 Revegetation

The area is mapped as elk winter range; therefore, reclamation of road cuts, infrastructure routes, and open spaces should occur using the same native plant species and vegetation profiles. As the Eck Project access and pad site occur on privately owned lands, the seed mixes used for reclamation are at the final discretion of the landowner.

- Revegetation should occur as soon as possible; however, seeding in the fall is recommended for native grasses for better seed germination. If needed, spring or summer seeding of temporary grass mixes is also a good idea to reduce sediment movement.
- Noxious weeds should be treated annually in order to minimize their spread and impact on winter range and increase the success of revegetation activities.
- Use of agricultural cultivars such as smooth brome (*Bromus inermis*), orchard grass (*Dactylis glomerata*) or yellow sweetclover (*Melilotus officinalis*) is strongly discouraged in order to provide high quality wildlife forage. CDOW (K. Madariaga & J. Holst) also discouraged the use of aggressive agricultural cultivars in reclamation.
- The use of temporary "cover crops" using sterile or short-lived grasses is acceptable.

4.3 Bears

Black bears are very common in the area. There are existing problems with bears, garbage, and people in Gunnison County and some bears have shown signs of habituation and aggression towards residents. The following measures should be implemented to reduce potential bear problems, as provided by CDOW staff (P. Will, CDOW 2006-2008):

- There should be no dumps that have edible materials. Construction workers and contractors should be notified and educated about the importance of keeping trash, food and drink items properly disposed of to discourage bear activities in the area.
- Garbage should be placed in bear-proof dumpsters, individual bear-proof trash containers, or kept in trash cans inside closed buildings.

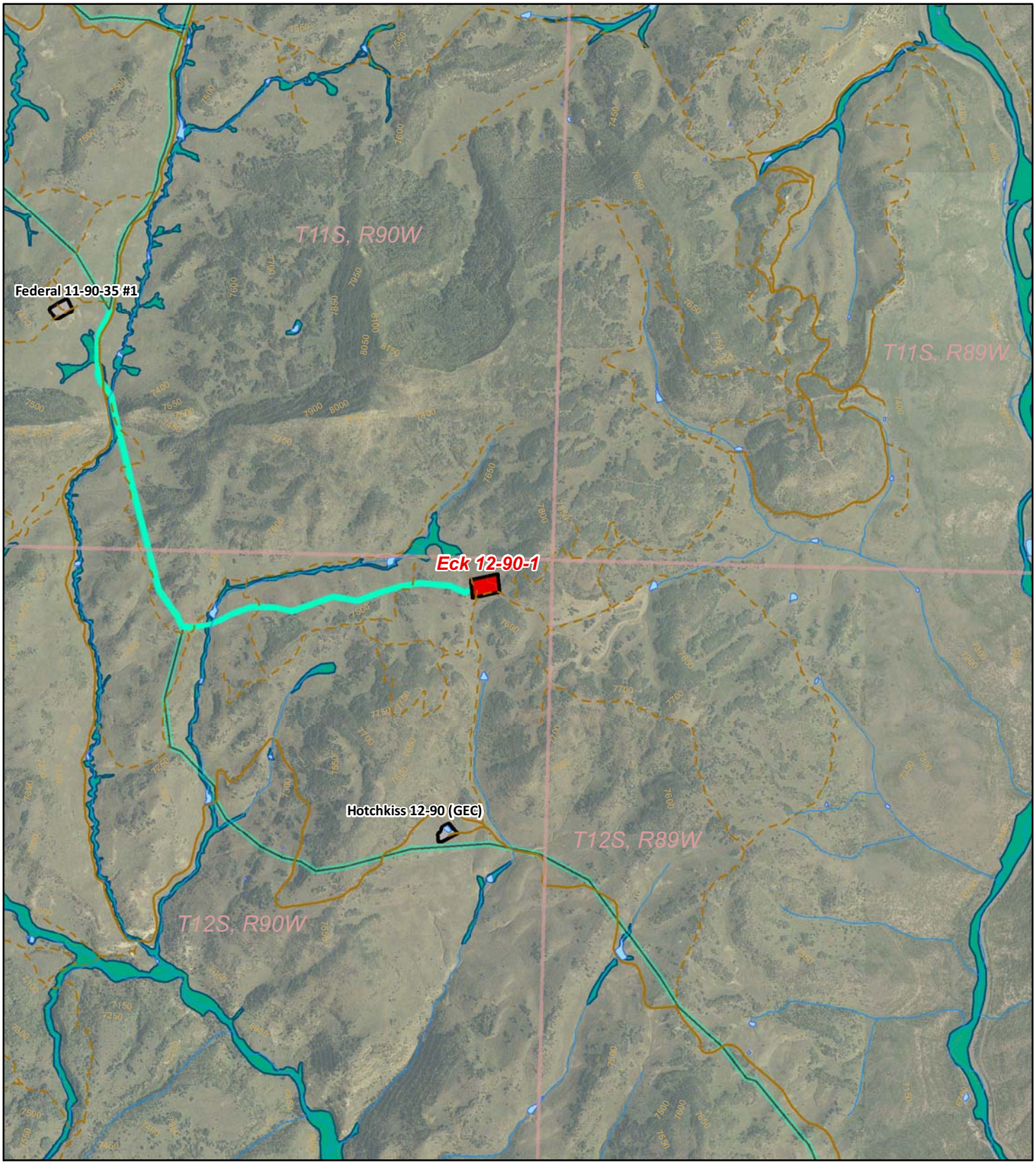
4.4 Aquatic species

- If pits are to be used, then they should be lined, have adequate freeboard to prevent precipitation from mobilizing chemicals off the pad, and use liners. Liners should not be punctured or damaged, and pits should be closed as quickly as possible.

4.5 Other Recommendations

- Automization, even if semi-automated, of the Eck pad site would help reduce daily vehicle traffic to the site. This would reduce indirect impacts to big game species and birds during breeding seasons.

- Generators or other loud equipment should be enclosed to reduce noise levels in the area, and would help reduce indirect impacts to wildlife.
- As identified in **303.d.3.J- Applicant Proposed Best Management Practices** (accompanying SG's State application, which is available on-line), many other wildlife minimization measures included in the CDOW's standard operating procedures for oil and gas projects will be considered and implemented.



Proposed Gas Well Pad
Existing Gas Well Pad
Proposed Gathering System
Existing Gathering System
Wetlands
Water Feature
50-foot contour
Township Boundary
Improved Dirt Road
Unimproved Two-Track

Bull Mountain Unit
Eck 12-90-1 Project

Wetlands

0 0.25 0.5 Miles
1 in = 2,000 feet

Disclaimer: This product is for informational purposes and may not have been prepared for, or be suitable for legal, engineering, or surveying purposes. Users of this information should review or consult the primary data and information sources to ascertain the usability of the information.

Prepared for SG Interests, Inc.
by TerraCognito GIS, Inc.
January 2012

5 Qualifications of Report Author

The primary author for this report was Eric Petterson, Principal Ecologist at Rocky Mountain Ecological Services, Inc. (RMES). Mr. Petterson holds a Master of Science Degree in Rangeland Ecosystem Science and a Bachelors of Science Degree in Wildlife Biology from Colorado State University. Mr. Petterson has 20 years of natural resource planning and management experience. As a professional wildlife biologist for the past 14 years working in the private sector and for the USDA Forest Service, he has authored numerous Biological Evaluations and Biological Assessments for NEPA and Endangered Species Act compliance for wildlife (and plant) species in Colorado, Utah, Wyoming, and Nebraska. He has produced management plans and impact analyses for federal, state, and private natural resource projects, and conducted many surveys for Threatened, Endangered and Sensitive species in Colorado, Utah, Wyoming and Nebraska.

He has implemented a variety of wildlife impact assessments, vegetation monitoring and vegetation management projects, wetland delineations, and research-based projects for clients including the USDA Forest Service, Bureau of Land Management, Colorado State Forest Service, Colorado State Parks, Summit County, Pitkin County Open Space & Trails, City of Aspen, Gunnison County, Town of Breckenridge, Town of New Castle and various private entities within Pitkin, Eagle, Grand, Garfield, Gunnison, Mesa, Rio Blanco, Routt, Larimer and Boulder Counties, and areas in northern New Mexico and Utah.

Wildlife and vegetation assessment reports and compliance documentation have been provided for entities such as Aspen Skiing Company, Vail Resorts, Sunlight Mountain Resort, Loveland Ski Area, ETC Canyon Pipeline, Noble Energy, SG Interests, Rio Tinto Kennecott Utah Copper LLC, Climax Molybdenum, Los Alamos National Laboratory, Western Area Power Administration, Holy Cross Electric, and Mountain Parks Electric Association. Many other individual entities and corporations have also been clients for RMES.

Mr. Petterson has also been a consultant/contractor on post-fire vegetation management on the 135,000 acre Hayman Fire, Missionary Ridge, Burn Canyon, and Eldorado Canyon fires in Colorado, and the Cerro Grande fire in Los Alamos, New Mexico. RMES has also provided wetland delineation and 404 permitting for compliance with the Clean Water Act for clients including natural gas development companies, Rio Tinto Kennecott Utah Copper, developers, pipeline companies, and for wetland reclamation and habitat improvement projects.

Mr. Petterson has managed Rocky Mountain Ecological Services since 2000, and previous to working with RMES he was the District Wildlife Biologist and Fuels Planner for the Canyon Lakes Ranger District on the Arapaho & Roosevelt National Forest. Mr. Petterson was with the USDA Forest Service for 10 years.

6 Literature Cited & General References

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Appendix E

Water Quality Spreadsheets

SG Interests I, Ltd.

Test Site: **WQ 11-89-31 #1**

Location: Large stockpond on unnamed creek at southern side of Section 31. Nexus: Fed. 11-89-30 #1, Eck 12-90-1 #1, Borich 11-89-32 #1 Owner: Ted Eck

Collectors: E. Petterson, RMES, Inc.

Compounds Tested For		Basic Standards in Water Supply/Maximum Contaminant Level (MCL)	Source of Standard	Potential Health Effects from long-term exposure above the MCL	Findings	Tolerance of Standard	Findings	Tolerance of Standard	Findings	Tolerance of Standard	Findings	Tolerance of Standard
					Baseline Data Sampling Date		Sampling Date		Sampling Date		Sampling Date	
Inorganic					11/9/2011 (L91844)							
					GunCo (SW) Protocol							
Metals Analysis	**Limits**	**in miligrams/liter**										
Arsenic		0.01	EPA[b]	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer.	0.0016	0.01						
Barium		2	EPA[b]	Increase in blood pressure	0.176	1.82						
Calcium	No Standard				56.2	NS						
Chromium	1-day (E)[a]	50	CDPHE[b]	Allergic dermatitis	U	NA						
Iron	30-day (F) [a]	300	CDPHE[b]		0.34	299.66						
Magnesium	No Standard				11.5	NS						
Selenium	30-day (B,D) [a]	20	CDPHE[b]	Hair or fingernail loss; numbness in fingers or toes; circulatory problems	0.0001	20.00						
Sodium	No Standard				36.2	NS						
Wet Chemistry	**Limits**	**in micrograms/liter**										
Alkalinity as CaCO3												
Bicarbonate as CaCO3	No Standard				221	NS						
Carbonate as CaCO3	No Standard				15	NS						
Hydoxide as CaCO3	No Standard				U	NS						
Total Alkalinity	range 100 to 200	200	UWSP[c]		236	-36.00						
Chloride	30-day (F) [a]	250	CDPHE[b]		9	241.00						
Conductivity @ 25C	No Standard				462	NS						
Flouride	1-day (3) (E)[a]	2	CDPHE[b]	Bone disease (pain and tenderness of the bones); Children may get mottled teeth	0.2	1.80						
pH (field)	range 6.5-8.5	8.5	EPA[b]		8.12	0.38						
pH (lab)	range 6.5-8.5	8.5	EPA[b]		8.4	0.10						
Sulfate		250	EPA[b]		3	247.00						
Organic												
BTEX / Volatile Hydrocarbons - CAS[1]	**Limits**	**in micrograms/liter**			U	NA						
Benzene- 71-43-2	range 2.3-5	2.3-5	CDPHE[b]	Anemia; decrease in blood platelets; increased risk of cancer	U	NA						
Ethylbenzene- 100-41-4		700	CDPHE[b]	Liver or kidneys problems	U	NA						
m p Xylene- 1330-20-7			CDPHE[b]	Nervous system damage	U	NA						
o Xylene- 95-47-6			CDPHE[b]	Nervous system damage	U	NA						
Total Xylenes		10,000	CDPHE[b]	Nervous system damage	U	NA						
Toluene- 108-88-3	560 to 1000	560	CDPHE[b]	Nervous system, kidney, or liver problems	U	NA						
TVH C6 to C10- TVH												
PAH- Polynuclear Aromatic Hydrocarbons GC/M	**Limits**	**in micrograms/liter**										
2-Methylnapthalene- 91-57-6	0.5 PPM for children	0.5	CaOEHHA[2]	Anemia; decrease in blood platelets; increased risk of cancer	U	NA						
Acenaphthene- 83-32-9		420	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Acenaphthylene- 208-96-8		170	CaOEHHA[2]	May cause reproductive and immunity issues	U	NA						
Anthracene- 120-12-7		2100	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(a)anthracene- 56-55-3		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(a)pyrene- 50-32-8	.0048 to 0.2	.0048 to 0.2	CDPHE[b]	Reproductive difficulties; increased risk of cancer	U	NA						
Benzo(b)fluoranthene- 205-99-2		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(g,h,i)perylene- 191-24-2		0.00005	Tempe AZ[3]	May cause reproductive and immunity issues	U	NA						
Benzo(k)fluoranthene- 207-08-9		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Chrysene- 218-01-9	No Standard				U	NS						
Dibenzo(a,h)anthracene- 53-70-3		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Fluoranthene- 206-44-0		280	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Fluorene- 86-73-7		280	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Indeno(1,2,3-cd)pyrene- 193-39-5		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Naphthalene- 91-20-3		140	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Phenanthrene- 85-01-8	No Standard				U	NS						
Pyrene- 129-00-0		210	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Total Petroleum Hydrocarbons												
TPH C10 to C28	No Standard				U	NS						

Footnotes:

[1] Chemical Abstracts Service Registry Number

[2] Calif. Office of Env. Health Hazard Assmnt.

[3] Standard from City of Tempe AZ

Sources & References

[a] CDPHE WQCC Reg. No. 31 (5CCR 1002-31)- See 31.16 Tables (3) References

[b] EPA 2006 Edition of the Drinking Water Standards and Health Advisories

[c] University Wisconsin Stevens Point- http://oehha.ca.gov/water/pals/naphthalene.html

SG INTERESTS I, LTD. Test Site: **WQ 11-90-36 #1**

Location: small pond on hillside bench due north of Bull Mountain. Nexus: Fed. 11-90-35 #2 pad. Owner: Nick Hughes

Collectors: S. Petterson, RMES

Compounds Tested For		Basic Standards in Water Supply/Maximum Contaminant Level (MCL)	Source of Standard	Potential Health Effects from long-term exposure above the MCL	Findings	Tolerance of Standard	Findings	Tolerance of Standard	Findings	Tolerance of Standard	Findings	Tolerance of Standard
					Baseline Data Sampling Date		Sampling Date		Sampling Date		Sampling Date	
					11/9/2011 (L91844)							
Inorganic					GunCo (SW) Protocol							
Metals Analysis	Limits	in miligrams/liter										
Arsenic		0.01	EPA[b]	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer.	0.004	0.01						
Barium		2	EPA[b]	Increase in blood pressure	0.255	1.75						
Calcium	No Standard				39.4	NS						
Chromium	1-day (E)[a]	50	CDPHE[b]	Allergic dermatitis	0.0062	49.99						
Iron	30-day (F) [a]	300	CDPHE[b]		11.7	288.30						
Magnesium	No Standard				10.9	NS						
Selenium	30-day (B,D) [a]	20	CDPHE[b]	Hair or fingernail loss; numbness in fingers or toes; circulatory problems	0.0008	20.00						
Sodium	No Standard				14.2	NS						
Wet Chemistry	Limits	in micrograms/liter										
Alkalinity as CaCO3												
Bicarbonate as CaCO3	No Standard				126	NS						
Carbonate as CaCO3	No Standard				U	NS						
Hydoxide as CaCO3	No Standard				U	NS						
Total Alkalinity	range 100 to 200	200	UWSP[c]		126	74.00						
Chloride	30-day (F) [a]	250	CDPHE[b]		11	239.00						
Conductivity @ 25C	No Standard				291	NS						
Flouride	1-day (3) (E)[a]	2	CDPHE[b]	Bone disease (pain and tenderness of the bones); Children may get mottled teeth	0.3	1.70						
pH (field)	range 6.5-8.5	8.5	EPA[b]		8.1	0.40						
pH (lab)	range 6.5-8.5	8.5	EPA[b]		8.2	0.30						
Sulfate		250	EPA[b]		U	NA						
Organic												
BTEX / Volatile Hydrocarbons - CAS[1]	Limits	in micrograms/liter										
Benzene- 71-43-2	range 2.3-5	2.3-5	CDPHE[b]	Anemia; decrease in blood platelets; increased risk of cancer	U	NA						
Ethylbenzene- 100-41-4		700	CDPHE[b]	Liver or kidneys problems	U	NA						
m p Xylene- 1330-20-7			CDPHE[b]	Nervous system damage	U	NA						
o Xylene- 95-47-6			CDPHE[b]	Nervous system damage	U	NA						
Total Xylenes		10,000	CDPHE[b]	Nervous system damage	U	NA						
Toluene- 108-88-3	560 to 1000	560	CDPHE[b]	Nervous system, kidney, or liver problems	U	NA						
TVH C6 to C10- TVH					U	NA						
PAH- Polynuclear Aromatic Hydrocarbons GC/M	Limits	in micrograms/liter										
2-Methylnapthalene- 91-57-6	0.5 PPM for children	0.5	CaOEHHA[2]	Anemia; decrease in blood platelets; increased risk of cancer	U	NA						
Acenaphthene- 83-32-9		420	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Acenaphthylene- 208-96-8		170	CaOEHHA[2]	May cause reproductive and immunity issues	U	NA						
Anthracene- 120-12-7		2100	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(a)anthracene- 56-55-3		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(a)pyrene- 50-32-8	.0048 to 0.2	.0048 to 0.2	CDPHE[b]	Reproductive difficulties; increased risk of cancer	U	NA						
Benzo(b)fluoranthene- 205-99-2		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(g,h,i)perylene- 191-24-2		0.00005	Tempe AZ[3]	May cause reproductive and immunity issues	U	NA						
Benzo(k)fluoranthene- 207-08-9		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Chrysene- 218-01-9	No Standard				U	NS						
Dibenzo(a,h)anthracene- 53-70-3		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Fluoranthene- 206-44-0		280	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Fluorene- 86-73-7		280	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Indeno(1,2,3-cd)pyrene- 193-39-5		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Naphthalene- 91-20-3		140	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Phenanthrene- 85-01-8	No Standard				U	NS						
Pyrene- 129-00-0		210	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Total Petroleum Hydrocarbons												
TPH C10 to C28	No Standard				0.2	NS						

Footnotes:

[1] Chemical Abstracts Service Registry Number

[2] Calif. Office of Env. Health Hazard Assmnt.

[3] Standard from City of Tempe AZ

Sources & References

[a] CDPHE WQCC Reg. No. 31 (5CCR 1002-31)- *See* 31.16 Tables (3) References

[b] EPA 2006 Edition of the Drinking Water Standards and Health Advisories

[c] University Wisconsin Stevens Point- http://oehha.ca.gov/water/pals/naphthalene.html

SG INTERESTS I, LTD.

Test Site: WQ 12-90-1 #1, GunCo (SW) Protocol

Location: small stock pond in meadow along access road. Nexus: Eck 12-90-1 #1. Owner: Gunnison Hunting Properties

Collectors: S. Petterson, RMES, Inc.

Constituents Tested For		Basic Standards in Water Supply/Maximum Contaminant Level (MCL)	Source of Standard	Potential Health Effects from long-term exposure above the MCL	Findings	Tolerance of Standard	Findings	Tolerance of Standard	Findings	Tolerance of Standard	Findings	Tolerance of Standard
					Baseline Data Sampling Date		Sampling Date		Sampling Date		Sampling Date	
Inorganic					11/4/2011 (L91724)							
Metals Analysis	Limits	in miligrams/liter										
Arsenic		0.01	EPA[b]	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer.	0.0014	0.01						
Barium		2	EPA[b]	Increase in blood pressure	0.164	1.84						
Calcium	No Standard				26.2	NS						
Chromium	1-day (E)[a]	50	CDPHE[b]	Allergic dermatitis	U	NA						
Iron	30-day (F) [a]	300	CDPHE[b]		1.42	298.58						
Magnesium	No Standard				8.1	NS						
Selenium	30-day (B,D) [a]	20	CDPHE[b]	Hair or fingernail loss; numbness in fingers or toes; circulatory problems	0.0003	20.00						
Sodium	No Standard				37.4	NS						
Wet Chemistry	Limits	in micrograms/liter										
Alkalinity as CaCO3												
Bicarbonate as CaCO3	No Standard				134	NS						
Carbonate as CaCO3	No Standard				U	NS						
Hydoxide as CaCO3	No Standard				U	NS						
Total Alkalinity	range 100 to 200	200	UWSP[c]		*134*	66.00						
Chloride	30-day (F) [a]	250	CDPHE[b]		7	243.00						
Conductivity @ 25C	No Standard				340	NS						
Flouride	1-day (3) (E)[a]	2	CDPHE[b]	Bone disease (pain and tenderness of the bones); Children may get mottled teeth	0.3	1.70						
pH (field)	range 6.5-8.5	8.5	EPA[b]		9.2	0.70						
pH (lab)	range 6.5-8.5	8.5	EPA[b]		8.1	0.40						
Sulfate		250	EPA[b]		U	NA						
Organic												
BTEX / Volatile Hydrocarbons - CAS[1]	Limits	in micrograms/liter			U	NA						
Benzene- 71-43-2	range 2.3-5	2.3-5	CDPHE[b]	Anemia; decrease in blood platelets; increased risk of cancer	U	NA						
Ethylbenzene- 100-41-4		700	CDPHE[b]	Liver or kidneys problems	U	NA						
m p Xylene- 1330-20-7			CDPHE[b]	Nervous system damage	U	NA						
o Xylene- 95-47-6			CDPHE[b]	Nervous system damage	U	NA						
Total Xylenes		10,000	CDPHE[b]	Nervous system damage	U	NA						
Toluene- 108-88-3	560 to 1000	560	CDPHE[b]	Nervous system, kidney, or liver problems	U	NA						
TVH C6 to C10- TVH												
PAH- Polynuclear Aromatic Hydrocarbons GC/M	Limits	in micrograms/liter										
2-Methylnapthalene- 91-57-6	0.5 PPM for children	0.5	CaOEHHA[2]	Anemia; decrease in blood platelets; increased risk of cancer	U	NA						
Acenaphthene- 83-32-9		420	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Acenaphthylene- 208-96-8		170	CaOEHHA[2]	May cause reproductive and immunity issues	U	NA						
Anthracene- 120-12-7		2100	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(a)anthracene- 56-55-3		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(a)pyrene- 50-32-8	.0048 to 0.2	.0048 to 0.2	CDPHE[b]	Reproductive difficulties; increased risk of cancer	U	NA						
Benzo(b)fluoranthene- 205-99-2		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(g,h,i)perylene- 191-24-2		0.00005	Tempe AZ[3]	May cause reproductive and immunity issues	U	NA						
Benzo(k)fluoranthene- 207-08-9		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Chrysene- 218-01-9	No Standard				U	NS						
Dibenzo(a,h)anthracene- 53-70-3		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Fluoranthene- 206-44-0		280	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Fluorene- 86-73-7		280	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Indeno(1,2,3-cd)pyrene- 193-39-5		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Naphthalene- 91-20-3		140	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Phenanthrene- 85-01-8	No Standard				U	NS						
Pyrene- 129-00-0		210	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Total Petroleum Hydrocarbons												
TPH C10 to C28	No Standard				0.2	NS						

Footnotes:

[1] Chemical Abstracts Service Registry Number

[2] Calif. Office of Env. Health Hazard Assmnt.

[3] Standard from City of Tempe AZ

Sources & References

[a] CDPHE WQCC Reg. No. 31 (5CCR 1002-31)- *See* 31.16 Tables (3) References

[b] EPA 2006 Edition of the Drinking Water Standards and Health Advisories

[c] University Wisconsin Stevens Point- http://oehha.ca.gov/water/pals/naphthalene.html

SG Interests I, Ltd.

Test Site: WQ 12-90-1 #2, GunCo (SW) Protocol

Location: Large stockpond on unnamed drainage. Nexus: Eck 12-90-1 #1. Owner: Gunnison Hunting Properties

Collectors: E. Petterson, RMES, Inc.

Compounds Tested For		Basic Standards in Water Supply/Maximum Contaminant Level (MCL)	Source of Standard	Potential Health Effects from long-term exposure above the MCL	Findings	Tolerance of Standard	Findings	Tolerance of Standard	Findings	Tolerance of Standard	Findings	Tolerance of Standard
					Baseline Data Sampling Date		Sampling Date		Sampling Date		Sampling Date	
Inorganic					11/9/2011 (91844)							
Metals Analysis	Limits	in miligrams/liter										
Arsenic		0.01	EPA[b]	Skin damage or problems with circulatory systems, and may have increased risk of getting cancer.	0.003	0.01						
Barium		2	EPA[b]	Increase in blood pressure	0.186	1.81						
Calcium	No Standard				39.2	NS						
Chromium	1-day (E)[a]	50	CDPHE[b]	Allergic dermatitis	0.0006	50.00						
Iron	30-day (F) [a]	300	CDPHE[b]		1.46	298.54						
Magnesium	No Standard				8.9	NS						
Selenium	30-day (B,D) [a]	20	CDPHE[b]	Hair or fingernail loss; numbness in fingers or toes; circulatory problems	0.0004	20.00						
Sodium	No Standard				45	NS						
Wet Chemistry	Limits	in micrograms/liter										
Alkalinity as CaCO3												
Bicarbonate as CaCO3	No Standard				180	NS						
Carbonate as CaCO3	No Standard				15	NS						
Hydoxide as CaCO3	No Standard				U	NS						
Total Alkalinity	range 100 to 200	200	UWSP[c]		*196*	4.00						
Chloride	30-day (F) [a]	250	CDPHE[b]		11	239.00						
Conductivity @ 25C	No Standard				401	NS						
Flouride	1-day (3) (E)[a]	2	CDPHE[b]	Bone disease (pain and tenderness of the bones); Children may get mottled teeth	0.4	1.60						
pH (field)	range 6.5-8.5	8.5	EPA[b]		9.18	0.68						
pH (lab)	range 6.5-8.5	8.5	EPA[b]		8.5	0.00						
Sulfate		250	EPA[b]		U	NA						
Organic												
BTEX / Volatile Hydrocarbons - CAS[1]	Limits	in micrograms/liter			U	NA						
Benzene- 71-43-2	range 2.3-5	2.3-5	CDPHE[b]	Anemia; decrease in blood platelets; increased risk of cancer	U	NA						
Ethylbenzene- 100-41-4		700	CDPHE[b]	Liver or kidneys problems	U	NA						
m p Xylene- 1330-20-7			CDPHE[b]	Nervous system damage	U	NA						
o Xylene- 95-47-6			CDPHE[b]	Nervous system damage	U	NA						
Total Xylenes		10,000	CDPHE[b]	Nervous system damage	U	NA						
Toluene- 108-88-3	560 to 1000	560	CDPHE[b]	Nervous system, kidney, or liver problems	U	NA						
TVH C6 to C10- TVH												
PAH- Polynuclear Aromatic Hydrocarbons GC/M	Limits	in micrograms/liter										
2-Methylnapthalene- 91-57-6	0.5 PPM for children	0.5	CaOEHHA[2]	Anemia; decrease in blood platelets; increased risk of cancer	U	NA						
Acenaphthene- 83-32-9		420	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Acenaphthylene- 208-96-8		170	CaOEHHA[2]	May cause reproductive and immunity issues	U	NA						
Anthracene- 120-12-7		2100	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(a)anthracene- 56-55-3		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(a)pyrene- 50-32-8	.0048 to 0.2	.0048 to 0.2	CDPHE[b]	Reproductive difficulties; increased risk of cancer	U	NA						
Benzo(b)fluoranthene- 205-99-2		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Benzo(g,h,i)perylene- 191-24-2		0.00005	Tempe AZ[3]	May cause reproductive and immunity issues	U	NA						
Benzo(k)fluoranthene- 207-08-9		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Chrysene- 218-01-9	No Standard				U	NS						
Dibenzo(a,h)anthracene- 53-70-3		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Fluoranthene- 206-44-0		280	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Fluorene- 86-73-7		280	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Indeno(1,2,3-cd)pyrene- 193-39-5		0.0048	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Naphthalene- 91-20-3		140	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Phenanthrene- 85-01-8	No Standard				U	NS						
Pyrene- 129-00-0		210	CDPHE[b]	May cause reproductive and immunity issues	U	NA						
Total Petroleum Hydrocarbons												
TPH C10 to C28	No Standard				0.1	NS						

Footnotes:

[1] Chemical Abstracts Service Registry Number

[2] Calif. Office of Env. Health Hazard Assmnt.

[3] Standard from City of Tempe AZ

Sources & References

[a] CDPHE WQCC Reg. No. 31 (5CCR 1002-31)- *See* 31.16 Tables (3) References

[b] EPA 2006 Edition of the Drinking Water Standards and Health Advisories

[c] University Wisconsin Stevens Point- http://oehha.ca.gov/water/pals/naphthalene.html

Appendix F

Archaeological Resources Survey Waiver

SG Interests I, Ltd. P.O. Box 26 Montrose, CO 81402

Waiver of "Archaeological Survey"

I/we, as listed below, are the owner(s) of the surface lands described below. I/we understand that SG Interests I, Ltd. will construct a well pad location, roads, and pipelines on the property listed below. The construction of this well pad will necessarily require the preparation of a road and other associated disturbances . These activities will create a disturbance to the surface of the earth on the lands described below. With this understanding, I/we do not require that SG Interests, I, Ltd. conduct an "archaeological survey" of the lands disturbed by the subject well pad and associated pipeline and road construction activities.

Surface land owner(s):

Gunnison Hunting Properties, LLC

By: Thomas R Speck

Date

12/29/11

Legal description of lands:

Township12S, Range 90W, Section 1

Eck 12-90-1 Well Project

Waiver Request – Duration of Permit

SG Interests I, Ltd. P.O. Box 26 Montrose, CO 81402

February 8, 2012

Mr. Neal Starkebaum
Assistant Director
Gunnison County Community Development Department
Blackstock Government Center
221 N. Wisconsin, Ste. D
Gunnison, CO 81230

Re: Request for Variance from Gunnison County's Temporary Regulations for Oil and Gas Operations section 1-111:B Completion of Operation, for Eck 12-90-1 Well Project

Neal;

SG Interests I Ltd. requests an extension to the duration of the Minor Impact Permit under consideration for the Eck 12-90-1 Well Project under Gunnison County's Temporary Regulations for Oil and Gas Operations section 1-111:B Completion of Operation. We request a five-year permit duration in order to drill the two gas wells and injection well on the well pad under consideration. Once the wells have been drilled, SG will conduct interim reclamation activities at this site per our permit requirements. At the conclusion of these activities, the Eck 12-90-1 Well Project, as currently submitted to Gunnison County, will be complete.

SG Interests I, Ltd. requests that the Gunnison County Permit Approval for the Eck 12-90-1 Well Project reflect this requested variance from Gunnison County's Temporary Regulations for Oil and Gas Operations section 1-111:B Completion of Operation.

Thank you for your consideration in this matter.

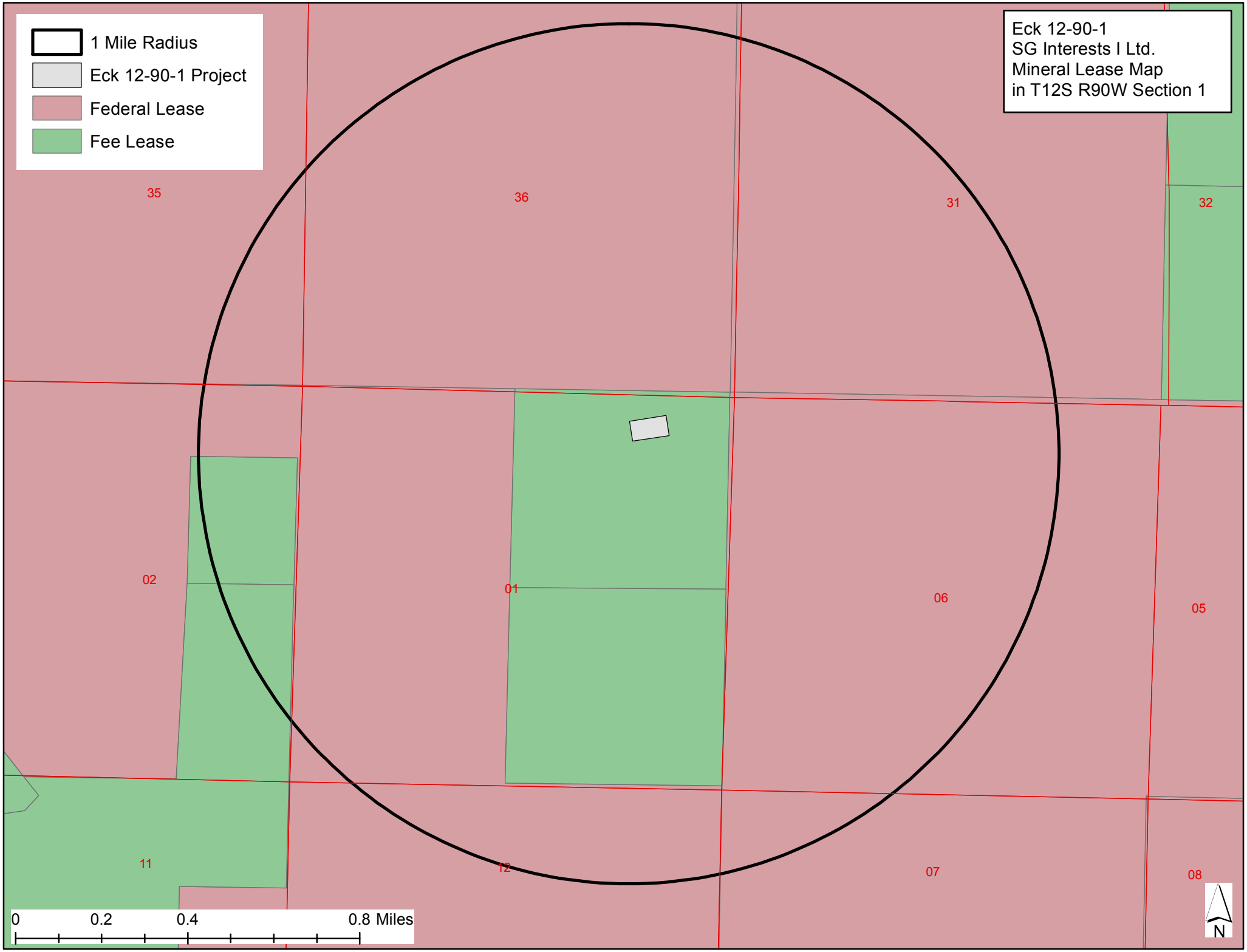
Sincerely,

Catherine Dickert

Catherine Dickert
Environmental Permitting Manager

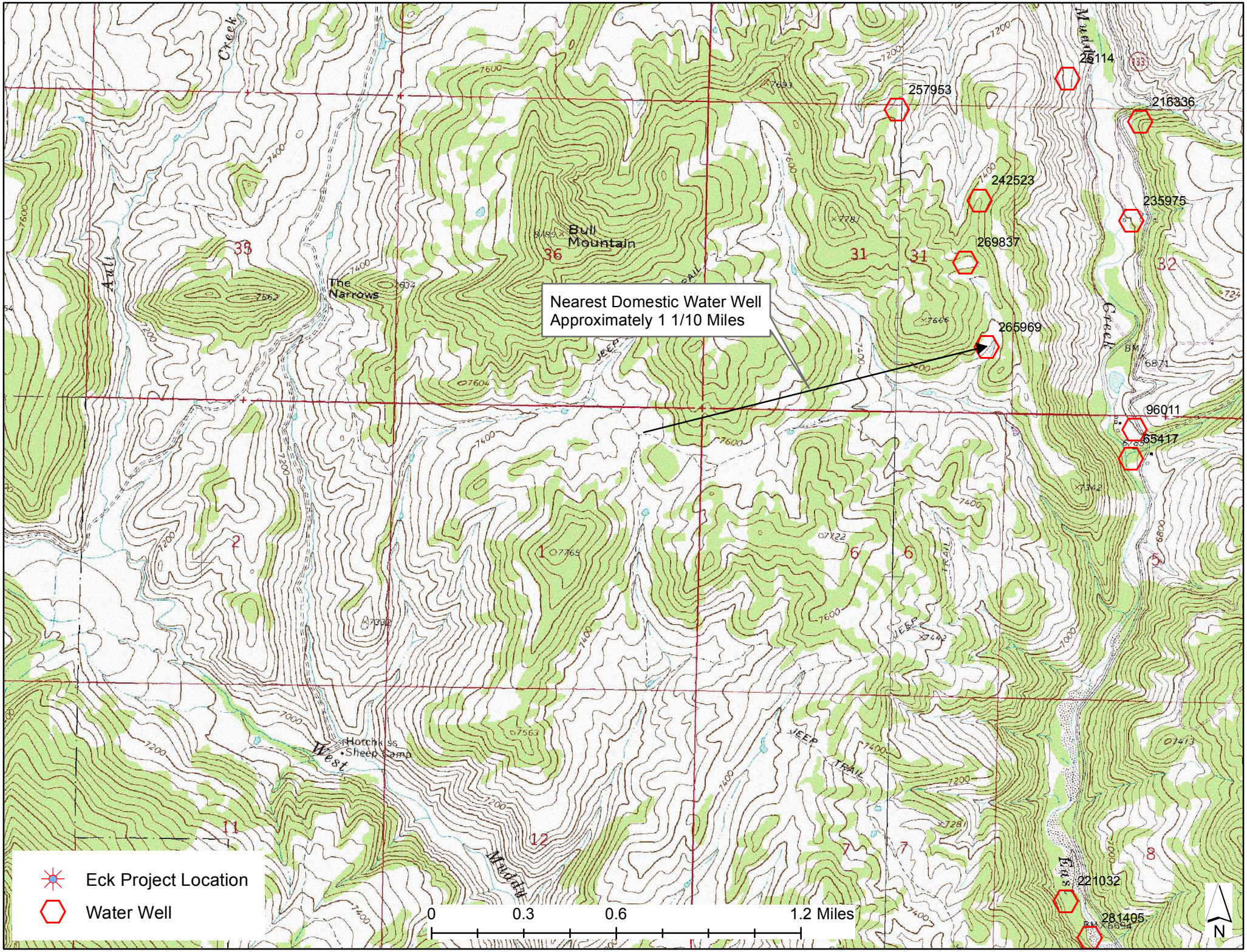
Eck 12-90-1 Well Project

Mineral Leases within One Mile


1 Mile Radius
Eck 12-90-1 Project
Federal Lease
Fee Lease
Eck 12-90-1
SG Interests I Ltd.
Mineral Lease Map
in T12S R90W Section 1
35
36
31
32
02
01
06
05
11
12
07
08
0
0.2
0.4
0.8 Miles
N

Eck 12-90-1 Well Project

Nearest Domestic Water Well


Nearest Domestic Water Well
Approximately 1 1/10 Miles
25114
257953
216336
242523
235975
269837
265969
96011
65417
221032
281405
Bull Mountain
The Narrows
Hotchkiss
Sheep Camp
Eck Project Location
Water Well
0
0.3
0.6
1.2 Miles
N