CHECKLIST ENVIRONMENTAL ASSESSMENT
FINAL

Project Name: Riding High **Proposed Implementation Date:** 8/15/96
Proponent: Riding High Quarter Horses, Inc.
Type and Purpose of Action: The applicant proposes to mine, crush, stockpile and transport 100,000 cubic yards of sand and gravel from a 13 acre pit located 1 mile southeast of the town of Eureka. The estimated start-up date is August 15, 1996 and will result in the lowering of a bench down to the level of surrounding cropland. The pit will be reclaimed to grassland after grading the slopes to at least a 3:1, replacing the topsoil and re-seeding.
Location: NW¼ NE¼ Section 10, T36N, R27W **County:** Lincoln

N = Not present or No Impact will occur.
Y = Impacts may occur (explain under Potential Impacts).

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	**[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES**
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are fragile, compactible or unstable soils present? Are there unusual geologic features? Are there special reclamation considerations?	[Y] The proposed mine is located on a relatively level glacial outwash terrace left from the last retreating glacier around 10,000 years ago. The deposit consists of stratified layers of alluvium and glacial outwash sand, gravel and cobbles that cover the deeper Tertiary valley fill. The billion year old Precambrian rock of the Belt Series sandstone, mudstone and limestone rocks surround the deposit in towering walls sculpted by alpine glaciers that form an intermountain, fault block basin known as the Rocky Mountain Trench. The Whitefish Range to the east and the less dramatic Salish Range to the west border this flat-lying valley. Many glacial features are found in this valley including drumlins and sink holes created when large blocks of glacial ice were buried in the outwash and later melted. Up to 12 inches of fairly well drained silty loam topsoil overlies the glacial sands and gravels, and local terrace slopes demonstrate reasonably good stability. All soil material will be salvaged and stockpiled away from the affected land. Following mining, grading and ripping, the soils will be replaced, disked and seeded to stabilize the soil and prevent erosion. Microbes will re-colonize the soil.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	[N] The nearest surface water is Indian Creek located two hundred feet west of the preferred haul road. The site will be mined to a depth of 16 feet which is considerably above the depth of the water table, estimated to be 50 feet below the surface (as seen in the nearby Cameron well). Therefore, the quality and quantity of the groundwater should not be impacted.

3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[Y] Air quality will be degraded and there will be an increase in particulate matter. Loaders, crushers, dozers and trucking equipment typically cause dusty conditions in disturbed soil sites. Spray bars and water or dust suppressant will be used to control dust at the minesite and the haul road if opacity exceeds 20% for a six minute period. Applicable federal regulations for air quality which are implemented by the state are the Standards of Performance for New Stationary Sources, 40 CFR Part 60, Subpart OOO (Nonmetallic Mineral Processing Plants). Subpart OOO sets an opacity limitation on fugitive dust emissions from the gravel crushing and handling operations.
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be permanently altered? Are any rare plants or cover types present?	[Y] Vegetation consists of pasture grasses on the upper flats, but the slopes are weedy with some knapweed and cheatgrass which have a south facing exposure. Vegetation covers 100% of the ground and will be removed and planted with species compatible with the proposed reclaimed use. Some native seed will remain viable in the salvaged topsoil and will re-generate. There is a moderate infestation of spotted knapweed on the slopes, but the pasture above and the grain fields below are weed-free.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[N] Although the area is used primarily for grazing and grain production, it also supports populations of deer, grouse, game and non-game birds, rodents, raptors, insects and various other animal species. Seed head gall flies have been introduced into the knapweed to provide biological control of noxious weeds. The Montana Natural Heritage Program identified ten occurrences of sensitive species or plant communities within a five-mile radius of the site. None of those items identified were likely to occur at this location, and none were identified during site inspections. Listed were the common loon, columbian sharp-tailed grouse, mid steppe series needle-and-thread grass, spalding campion, many-headed sedge and grizzly bears.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N] The Natural Heritage Program literature search and site evaluations have not revealed any endangered or threatened plant or animal species.
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N] This site has been cultivated by modern man, thus destroying the integrity of resources that may have existed. A surface reconnaissance did not discover any cultural, historical or archeological resources. The operator will give appropriate protection to any values or artifacts discovered in the affected area. If significant resources are found, the operation will be routed around the site of discovery for a reasonable time until salvage can be conducted. The State Historical Preservation Office will be promptly notified.

8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[Y] There will be a temporary deterioration of aesthetics while the operation is under way. However, reclamation will return the area to a visually acceptable landscape. Mining will progress in a manner that will reduce visual and audible impacts. The mine will remove the interior of the ridge first and the rim around the ridge last to provide a buffer. Also, topsoil will be stockpiled in a 13 foot high berm to help screen noise and light from the nearby Cameron residence to the west.
9. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY: Will the project use resources that are limited in the area? Are there other activities nearby that will affect the project?	[N]
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other studies, plans or projects on this tract?	[N]

IMPACTS ON THE HUMAN POPULATION	
RESOURCE	[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[Y] Heavy equipment and facilities including crushers, trucks, loaders and dozers will create hazards, but the operator must comply with all MSHA and OSHA regulations. The operator will employ proper precautions to avoid accidents.
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[Y] The acreage listed in the Type and purpose of Action will be taken out of agricultural/grazing and put into industrial/commercial use. Upon completion of mining, the land will be returned to its previous use.
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N]
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N]
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc) be needed?	[Y] The operation will require periodic site evaluations by DEQ staff until such time as the site is successfully reclaimed to the required post-mining use. However, these evaluations are usually performed in conjunction with other area operations.
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[Y] City/County zoning clearance has been obtained.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N]
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N]
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N] The hours of operation are restricted to 7am to 7pm, Monday to Friday.

20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N]
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N]

22. Alternatives Considered:
1. Denial: Pit would not be permitted and impacts would not occur at this location. The owner of the gravel resource would be denied full utilization of his property at this time.
2. Approval of the amendment with mitigating conditions: The Plan of Operation has been written with mitigating conditions. Mitigation measures include water protection, fuel containment, dust control, hours of operation, sound and visual barriers.

23. Public Involvement, Agencies, Groups or Individuals contacted:
State Historic Preservation Office, Montana Heritage Program, personal contacts with the neighbors, and a public meeting was conducted to receive comments on August 29, 1996. Further comments were welcomed until September 6, 1996; none were received.

24. Other Governmental Agencies with Jurisdiction, List of Permits Needed:
Montana Department of Environmental Quality for Air Quality Permit; Mine Safety and Health Administration for safety permit; Montana Department of Labor & Industry, Bureau of Safety for safety permit.

25. Magnitude and Significance of Potential Impacts:
Impacts are unlikely to be significant on the general environment because of the rural/industrial nature of the area and the lack of unique or critical wildlife habitat.

26. Regulatory impact on private property: The analysis conducted in response to the Private Property Assessment Act indicates no impact.

Recommendation for Further Environmental Analysis:

[ ] EIS [ ] More Detailed EA [X] No Further Analysis

EA Checklist Prepared By: Rod Samdahl (Name) Reclamation Specialist (Title)

Approved By: _____ (Name) _____ (Title)

_____ (Signature) _____ (Date)