

ENCANA™



EnCana Oil & Gas (USA) Inc.

Loc ID 335622

Document 2496588

370 17th Street
Suite 1700
Denver, CO 80202

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www.encana.com

February 4, 2008

Colorado Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801
Denver, CO 80203

Re: EnCana Oil & Gas (USA) Inc. Well Pad N23 596 Loc ID 335622
EnCana Oil & Gas (USA) Inc. Well Pad D27A 595

To Whom It May Concern:

The attached permits are being submitted by EnCana Oil & Gas (USA) Inc. for your review and approval. The permits are for centralized E&P waste management facilities located on our EnCana's N23 596 and D27A 595 well pads, Garfield County, Colorado as defined in COGCC Rule 908.a. These pits will be used for storage of water produced from several wells drilled by EnCana and its partners, ConocoPhillips Company and Berry Petroleum Company. Water from the pits will additionally be used for completion operations on wells operated by EnCana, ConocoPhillips Company and Berry Petroleum Company. EnCana entered into a Joint Operating Agreement with Berry Petroleum Company covering joint operations on EnCana owned lands effective June 7, 2006. Each company operates numerous wells under this JOA. EnCana additionally entered into a Joint Operating Agreement with ConocoPhillips Company covering joint operations effective August 24, 2006. Both companies currently operate many wells under this JOA. It is not the intent of EnCana, ConocoPhillips Company or Berry Petroleum Company to operate these centralized E&P waste management facilities for commercial benefit.

EnCana understands that under Rule 908.d we are required to meet the financial assurance requires set forth in Rule 704. Please be advised that bonds will be in place at the proper time and copies will be provided to your office.

We are in the process of submitting a Special Use Permit to Garfield County for these facilities. Please advise if you have questions or require additional information in this regard.

Very truly yours,

Kirsten E. Orahood
Group Lead, Land, N. Piceance Team
EnCana Oil & Gas (USA) Inc.

Location ID 335622

FORM
15
Rev 6/99State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax: (303)894-2109



FOR OGCC USE ONLY

EARTHEN PIT REPORT/PERMIT

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days, is required for pits. Submit required attachments and forms.

FORM SUBMITTED FOR:

☐ Pit Report☒ Pit Permit

OGCC Operator Number: 100185

Name of Operator: EnCana Oil & Gas (USA) Inc.

Address: 370 17th Street, Suite 1700

City: Denver State: CO Zip: 80202

Contact Name and Telephone:

Erin Nelson

No: (720) 876-5711

Fax: (720) 876-6711

Complete the
Attachment Checklist

Oper OGCC

Detailed Site Plan	<input checked="" type="checkbox"/>	
Topo Map w/ Pit Location	<input checked="" type="checkbox"/>	
Water Analysis (Form 25)		
Source Wells (Form 26)		
Pit Design/Plan & Cross Sect		
Design Calculations		
Sensitive Area Determ.		
Mud Program		
Form 2A		

API Number (of associated well): See Attached List

OGCC Facility ID (of other associated facility):

Pit Location (QtrQtr, Sec, Twp, Rng, Meridian): SW/4 Sec. 23-T5S-R96W, 6th PM

Latitude: 39 35' 42.81"

Longitude: 108 08' 12.85"

County: Garfield

Pit Use: ☐ Production ☐ Drilling (Attach mud program) ☒ Special Purpose (Describe Use): Frac water storage consisting of produced and flow back waterPit Type: ☒ Lined ☐ Unlined Surface Discharge Permit: ☐ Yes ☒ NoOffsite disposal of pit contents: ☐ Injection ☒ Commercial Pit/Facility Name: Well Pad N23 596

Pit/Facility No: 39.595225 - 108.136403

Attach Form 26 to identify Source Wells and Form 25 to provide Produced Water Analysis results.

Existing Site Conditions

Is the location in a "Sensitive Area?" ☐ Yes ☒ No Attach data used for determination.

Distance (in feet) to nearest surface water: ground water: water wells:

LAND USE (or attach copy of Form 2A if previously submitted for associated well) Select one which best describes land use:

Crop Land: ☐ Irrigated ☐ Dry Land ☐ Improved Pasture ☐ Hay Meadow ☐ CRPNon-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe):Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

SOILS (or attach copy of Form 2A if previously submitted for associated well)

Soil map units from USNRCS survey: Sheet No: Soil Complex/Series No:

Soils Series Name: Horizon thickness (in inches): A: B: C:

Soils Series Name: Horizon thickness (in inches): A: B: C:

Attach detailed site plan and topo map with pit location.

Pit Design and Construction

Size of pit (feet): Length: 350' Width: 60' Depth: 15'

Calculated pit volume (bbls): 33,280 Bbls +/- Daily inflow rate (bbls/day):

Daily disposal rates (attach calculations): Evaporation: bbls/day Percolation: bbls/day

Type of liner material: 8 oz. Geotech felt Thickness: 16mm

Attach description of proposed design and construction (include sketches and calculations).

Method of treatment of produced water prior to discharge into pit (separator, heater treater, other): Separator and filtration

Is pit fenced? ☒ Yes ☐ No Is pit netted? ☒ Yes ☐ No

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Erin Nelson

Signed:

Title: Operations Engineering Technician

Date: 2/4/2008

OGCC Approved:

Title: EPS - NW Area

Date: 4/18/09

CONDITIONS OF APPROVAL, IF ANY:

FACILITY NUMBER:

Attached and Made Part of Pit Permit Form 15

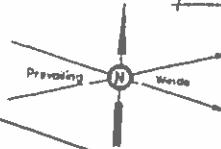
<u>Operator</u>	<u>API #</u>	<u>Wells</u>
ConocoPhillips Company	0504513004	NPM CP02D-09 G09 596
ConocoPhillips Company	0504513006	NPM CP07B-09 G09 596
ConocoPhillips Company	0504513007	NPM CP14A-09 G09 596
ConocoPhillips Company	0504514297	NPM CP11B-09 G09 596
ConocoPhillips Company	0504514293	NPM CP01D-08 G08 596
ConocoPhillips Company	0504512977	NPM CP02D-08 G08 596
ConocoPhillips Company	0504512976	NPM CP07C-08 G08 596
ConocoPhillips Company	0504514336	NPM CP11D-08 G08 596
ConocoPhillips Company	0504511544	NPM CP11D-04 K04 596
ConocoPhillips Company	0504511543	NPM CP10D-04 K04 596
ConocoPhillips Company	0504511539	NPM CP11A-04 K04 596
ConocoPhillips Company	0504511545	NPM CP09B-04 K04 596
ConocoPhillips Company	0504513538	NPM CP08A-17 E16 596
ConocoPhillips Company	0504513539	NPM CP11A-16 E16 596

EnCana OIL & GAS (USA) INC.

LOCATION LAYOUT FOR

WELL PAD N23 596
SECTION 23, T5S, R96W, 6th P.M.
SE 1/4 SW 1/4

FIGURE #1

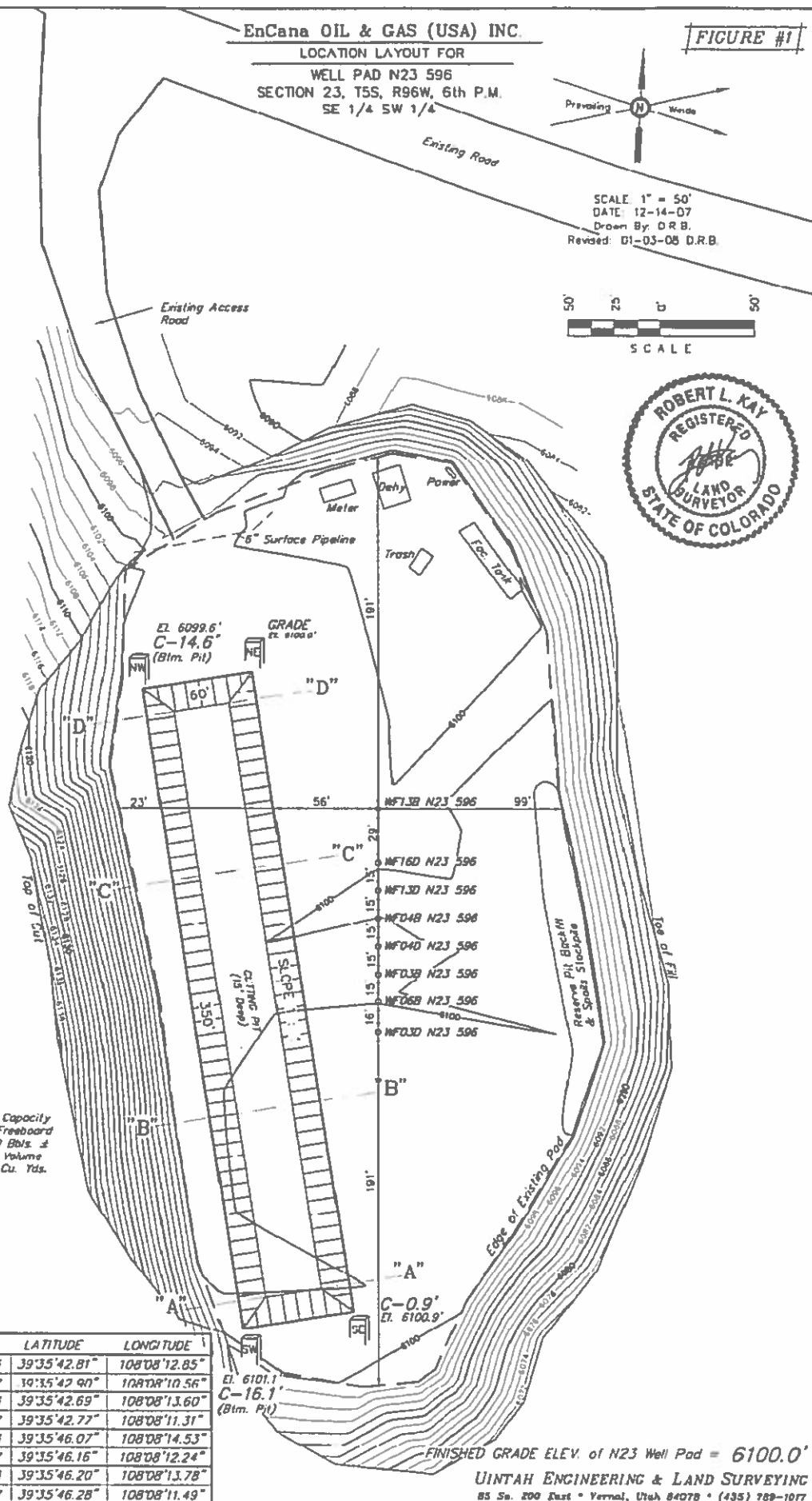


SCALE 1" = 50'
DATE 12-14-07
Drawn By: D.R.B.
Revised: 01-03-08 D.R.B.



Total Pit Capacity
W/2' of Freeboard
= 33,280 Bbls. ±
Total Pit Volume
= 8,420 Cu. Yds.

Pit Corner		LATITUDE	LONGITUDE
"SE"	NAD 83	39°35'42.81"	108°08'12.85"
"SW"	NAD 83	39°35'42.69"	108°08'13.60"
"NW"	NAD 83	39°35'46.07"	108°08'14.53"
"NE"	NAD 83	39°35'46.20"	108°08'13.78"
	NAD 27	39°35'42.77"	108°08'11.31"
	NAD 27	39°35'46.15"	108°08'12.24"
	NAD 27	39°35'46.28"	108°08'11.49"



EnCana OIL & GAS (USA) INC.

TYPICAL CROSS SECTIONS FOR

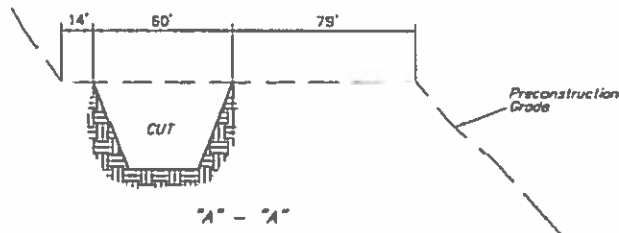
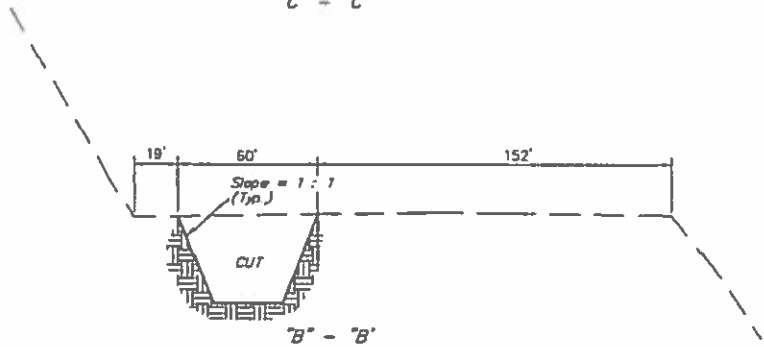
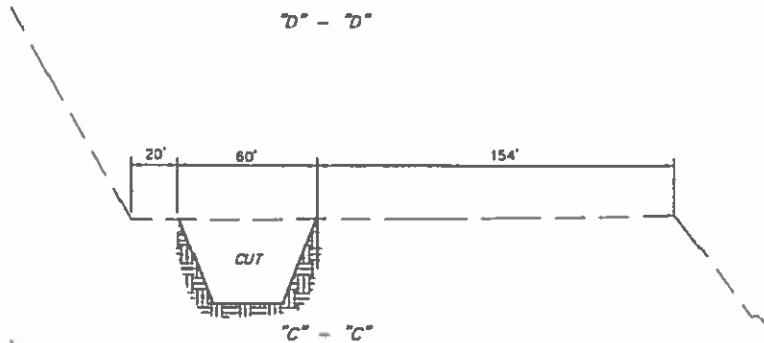
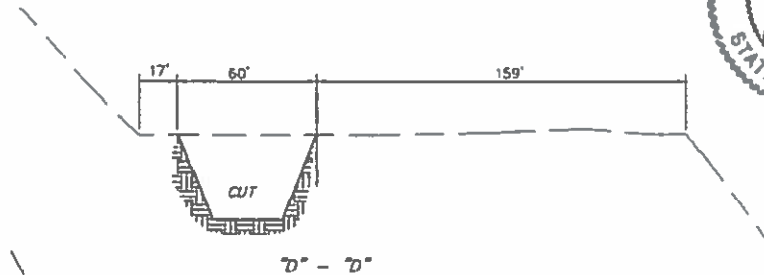
WELL PAD N23 596
SECTION 23, T5S, R96W, 6th P.M.
SE 1/4 SW 1/4

FIGURE #2

1" = 20'
X-Section
Scale
1" = 50'

DATE: 01-03-08
Drawn By: D.R.B

50' 25' 0' 50'
SCALE



* NOTE:
FILL QUANTITY INCLUDES
SF FOR COMPACTION

APPROXIMATE YARDAGES

CUT
(No) Topsoil Stripping = 0 Cu. Yds.
Remaining Location = 8,300 Cu. Yds.
TOTAL CUT = 8,300 CU.YDS.
FILL = 0 CU.YDS.

EXCESS MATERIAL = 8,300 Cu. Yds.
Pit Backfill = 4,210 Cu. Yds.
(1/2 Pit Vol.)
EXCESS UNBALANCE = 4,090 Cu. Yds.
(After Interim Rehabilitation)

UINTAH ENGINEERING & LAND SURVEYING
83 3rd 200 East • Vernal, Utah 84078 • (435) 788-1017

STATE OF COLORADO)
)ss
County of Garfield)

At a regular meeting of the Board of County Commissioners for Garfield County, Colorado, held in the Commissioners' Meeting Room, Garfield County Plaza Building, in Glenwood Springs on Monday, the 16th day of May, 2005, there were present:

<u>John Martin</u>	Commissioner Chairman
<u>Larry McCown</u>	Commissioner
<u>Traci Hourt</u>	Commissioner
<u>Don DeFord</u>	County Attorney
<u>Mildred Aldorf</u>	Clerk of the Board
<u>Ed Green</u>	County Manager

when the following proceedings, among others were had and done, to-wit:

RESOLUTION NO. 2005-45

A RESOLUTION CONCERNED WITH THE APPROVAL OF A SPECIAL USE PERMIT FOR "STORAGE, PROCESSING, AND MATERIAL HANDLING OF NATURAL RESOURCES" FOR A PRODUCED WATER TREATMENT AND STORAGE POND FACILITY

WHEREAS, the Board of County Commissioners of Garfield County, Colorado, received a Special Use Permit (SUP) request for "Storage, Processing, and Material Handling of Natural Resources" submitted by Encana Oil and Gas USA, Inc to construct a produced water treatment and storage pond facility; and

WHEREAS, the proposed facility is to be located on 3 acres of a 27,000 acre property formerly known as the UNOCAL property located at the end of CR215, north of Parachute, CO and is zoned Resource Lands (Gentle Slopes & Lower Valley Floor) where such use is permitted as a Special Use; and

WHEREAS, the proposed facility will serve as a temporary holding pond where produced water generated from natural gas drilling operations in the area can be treated, stored, and then reused in drilling operations in the area operated by Encana Oil and Gas, USA; and

WHEREAS, the proposed pipeline is to be located on a property legally described in Attachment A attached hereto; and

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WHEREAS, the Board of County Commissioners opened a public hearing on the 16th day of May, 2005 upon the question of whether the above-described SUP should be granted or denied, during which hearing the public and interested persons were given the opportunity to express their opinions regarding the issuance of said SUP; and

WHEREAS, the Board of County Commissioners closed the public hearing on the 16th day of May, 2005 to make a final decision; and

WHEREAS, the Board of County Commissioners on the basis of substantial competent evidence produced at the aforementioned hearing, has made the following determination of facts:

1. That proper publication, public notice, and posting was provided as required by law for the hearings before the Board of County Commissioners.
2. That the public hearing before Board of County Commissioners was extensive and complete; all pertinent facts, matters and issues were submitted; and that all interested parties were heard at those hearings.
3. The proposed Special Use Permit conforms to Sections 3.10.04, 5.03, 5.03.07 and 5.03.08 of the Garfield County Zoning Resolution of 1978, as amended.
4. The proposed use is in the best interest of the health, safety, morals, convenience, order, prosperity and welfare of the citizens of Garfield County.

NOW, THEREFORE, BE IT RESOLVED by the Board of County Commissioners of Garfield County, Colorado, that based on determination of facts set forth above, the SUP request for "Storage, Processing, and Material Handling of Natural Resources" is approved with the following conditions:

1. That all representations of the Applicant, either within the application or stated at the hearing before the Board of County Commissioners, shall be considered conditions of approval unless explicitly altered by the Board.
2. That the Applicant shall comply with the fire protection provisions included in the rules and regulations of the Colorado Oil and Gas Conservation Commission (COGCC) and the National Fire Code as the Code pertains to the operation of this facility.
3. The issuance of the Special use Permit shall be subject to an annual review of the water chemistry contained in the evaporation pit at such time when free standing water is within the pit and water samples collected from the ground water monitoring well. These analyses shall be submitted to the Building and Planning Department on the first day of July for every year the pit is in operation. The cost of this analysis shall be born entirely by the Applicant. If this water is determined, through these analyses, to be hazardous or toxic based on applicable

standards, the Applicant or owner / operator of the facility shall be required to submit an additional SUP to specifically address / mitigate any detected potential hazards.

4. The County reserves the right to retain outside expertise, at the expense of the Applicant / operator of the facility, in order to conduct tests or analyses of the physical nature, water chemistry or groundwater properties on or away from the site.
5. That this facility is for the sole use of the Applicant. If any other entities are to be added as users, then they would be subject to an additional SUP as well as rules and regulations as administered by the COGCC.
6. That all out-of-state vehicles and equipment associated with the operation of the facility be properly licensed within the State of Colorado. The Applicant shall provide a list of all associated licensed equipment to the County Clerk and Recorder prior to the issuance of a Special Use Permit.
7. All produced water brought to the facility that is contained in any above ground storage / treatment / separator tanks shall be contained within an adequate secondary containment structures constructed from impermeable materials to prevent any spill from impacting groundwater.
8. The Applicant shall comply with the following requirements in order to mitigate adverse affects of this operation on wildlife:
 - a. The Applicant shall monitor the pond for the presence of oil as a matter of typical operation and maintenance duties and to prevent wildlife from being harmed. If, in the unlikely event, oil reaches the pond water, the Applicant shall take measures to immediately remove it.
 - b. The Applicant shall install a waterfowl deterrence system for the pond which has been approved by the Division of Wildlife. The Applicant shall submit written proof from the Division of Wildlife indicating the proposed system meets their approval prior to the issuance of a Special Use Permit.
 - c. The Applicant shall immediately report the death of any migratory bird caused by activities or structures at the facility to the Colorado Division of Wildlife and the United States Fish and Wildlife Service in accordance with state and federal regulations.
9. Prior to the issuance of a Special Use Permit, the Applicant shall submit the following items to the County Vegetation Manager for approval:
 - a. The Applicant shall map and inventory the property for the County Listed Noxious Weeds.

- b. The Applicant shall provide a Weed Management Plan for the inventoried noxious weeds.
 - c. The Applicant shall augment the site reclamation plan by providing a plant material list and planting schedule for the reclamation.
 - d. The Applicant shall provide a Mosquito Management Plan that will address how the Applicant intends to monitor and manage this site for mosquitoes.
 - e. The Applicant shall provide the County Vegetation Manager with a disturbed acreage as a result of the construction of the pond so that an appropriate revegetation security can be calculated and posted by the Applicant to Garfield County in a form acceptable to the county Attorney's Office. This security shall be posted prior to the issuance of a Special Use Permit and held by the County until successful revegetation has occurred as determined by the County Vegetation Manager which shall cause the release of the security.
10. The Applicant shall be required to pay double the grading permit fee to be determined by the Building and planning department prior to the issuance of a Special Use Permit.
11. The Applicant shall comply with the following Industrial Performance Standards in Section 5.03.08 of the Garfield County Zoning Resolution of 1978, as amended including:
- a. Volume of sound generated shall comply with the standards set forth in the Colorado Revised Statutes.
 - b. Vibration generated: every use shall be so operated that the ground vibration inherently and recurrently generated is not perceptible, without instruments, at any point of any boundary line of the property on which the use is located.
 - c. Emissions of smoke and particulate matter: every use shall be operated so as to comply with all Federal, State and County air quality laws, regulations and standards.
 - d. Emission of heat, glare, radiation and fumes: every use shall be so operated that it does not emit heat, glare, radiation or fumes which substantially interfere with the existing use of adjoining property or which constitutes a public nuisance or hazard. Flaring of gases, aircraft warning signals, reflective painting of storage tanks, or other such operations which may be required by law as safety or air pollution control measures shall be exempted from this provision.

575764 05/07/2005 09:23A 31694 P545 N ALSDOFF
3 of 7 R 0.00 D 2.00 GARFIELD COUNTY CO

Dated this 6th day of June, A.D. 2005.

ATTEST:



Clerk of the Board

GARFIELD COUNTY
BOARD OF
COMMISSIONERS,
GARFIELD COUNTY,
COLORADO

Chairman

Upon motion duly made and seconded the foregoing Resolution was adopted by the following vote.

John Martin

Larry McCown

Trési Houpt

Aye

Aye

Nay

STATE OF COLORADO)

County of Garfield)

I, _____, County Clerk and ex-officio Clerk of the Board of County Commissioners in and for the County and State aforesaid do hereby certify that the annexed and foregoing Resolution is truly copied from the Records of the Proceeding of the Board of County Commissioners for said Garfield County, now in my office.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of said County, at Glenwood Springs, this ____ day of _____, A.D. 2005

County Clerk and ex-officio Clerk of the Board of County Commissioners