Final Traffic Assessment

Prepared For:

Energy Fuels Resources

Piñon Ridge Mill

SH-90 @ Mile Post 23

Montrose County, Colorado

March 10, 2008

587½ Grand Cascade Way
Grand Junction, CO 81501
970-985-4001

TurnKey
Consulting, LLC

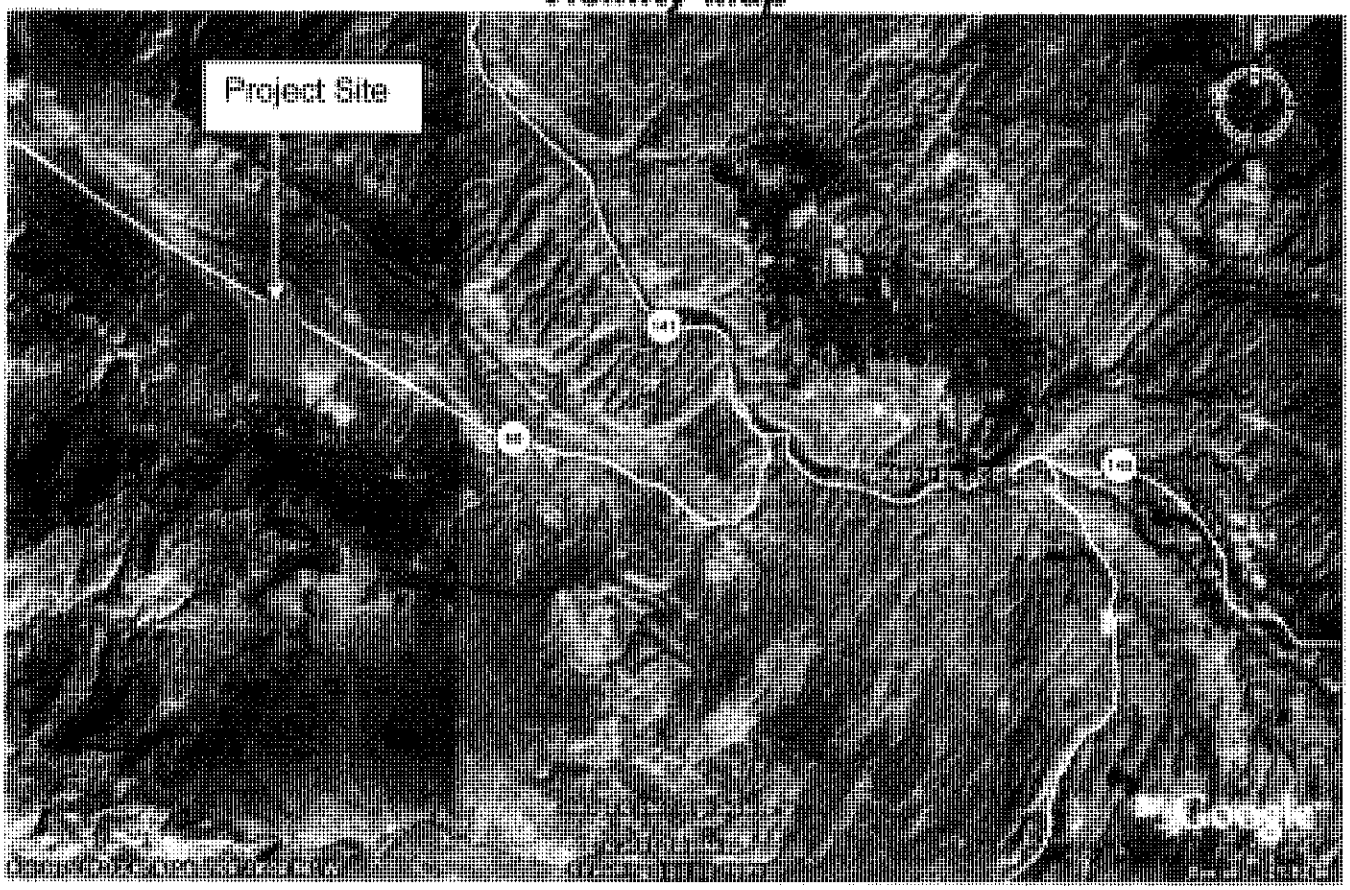
1 Introduction & Project Characteristics

This report summarizes the traffic evaluation results associated with the proposed Energy Fuels Resources, Piñon Ridge Mill Site in Montrose County, Colorado (Project). Please see the Vicinity Map for the Project location. For the purposes on this study, SH-90 is considered the east-west highway and SH-141 is considered the north-south highway. A section at the end of this report provides responses to previous CDOT review comments.

1.1 Size, Type & Location

The Project would be a uranium mill. Construction will start in 2008 and end by 2011. The access to the mill would be located near milepost 23 on SH-90. This evaluation looks at 2030 traffic conditions. The focus of this evaluation were the intersections of the Site Access & SH-90, and of SH-90 & SH-141.

Vicinity Map



1.2 Adjacent Access Points

There is one dirt road at Mile Post 23 on the West side of SH-90. This access would be located within the highway improvement construction limits.

1.3 Trip Generation & Distribution at Project Access Point

Project trip generation forecasts were based on the number of anticipated vehicle trips per day to/from the site, as estimated by the mill operator (see attached from Frank Filas dated 1/16/08). The estimate included trip distributions for different trip types. The ore trucks will travel 50% east and 50% west during mill operation. All other trip types will travel 90% east and 10% west. The trip generation calculation included the following trip types.

Construction Period

- On-site construction workers
- Initial ore hauling
- Construction traffic

Operations Period

- Employees
  - Straight
  - Shift
- Visitors
- Trucks
  - Ore
  - Other (large and medium size)

The Appendix includes detailed trip generation and distribution calculations. The following table summarizes the vehicle movements at the proposed Project access point on SH-90.

Table 1 - Project Peak-Hour Trip Generation & Distribution

Activity	Direction	To/from West		To/from East	
		AM	PM	AM	PM
Construction	Inbound	6	3	37	10
	Outbound	3	6	10	37
Operations	Inbound	8	7	28	17
	Outbound	7	8	17	28

The peak traffic volumes for each turning movement at the site access are as follows:

- Northbound left turn (outbound) = 8 vph
- Eastbound right turn (inbound) = 8 vph
- Northbound right turn (outbound) = 37 vph
- Westbound left turn (inbound) = 37 vph

1.4 Trip Distribution at the Intersection of SH-90/SH-141

SH-90 connects to SH-141. At this location, 25% of the Project traffic would be to/from the north and 25% of the Project traffic would be to/from the south.

Table 2 - Project Trip Distribution
at the SH-90/SH-141 Intersection

Direction	Distribution
North	25%
South	25%
East	0 %
West	0 %

2 Existing & Projected Traffic Volumes

2.1 Existing Peak-Hour Traffic Volumes

Site Access/SH-90

The existing intersection of Site Access/SH-90 is a four-leg layout. However, the access opposing the site access is a dirt road with little to no observed traffic volume. CDOT indicates an AADT of 400 vpd on SH-90 in 2006 (see attached CDOT data summary).

- Assuming a 10% peak-to-daily factor, the 2006 peak-hour through volumes would be 40 vph (two-way),
- Assuming a 50% directional factor, each 2006 peak-hour through volume would be 20 vph (one –way)
- Assuming a 3.4% annual growth rate (see next section), each 2007 peak-hour through volume would be 21 vph.

SH-90/SH-141

The intersection of SH-90/SH-141 is a three-leg configuration. Turnkey consulting conducted a traffic count on October 19, 2007, from 4:30 p.m. to 5:30 p.m. Detailed count data provided in the appendix.

CDOT Region 5 requires that traffic counts be adjusted to match the peak time of year (July). The conversion factor is derived from a continuous count performed by an automatic traffic recorder (ATR). Unfortunately, there are not any ATR's on the highways surrounding the Project. Therefore, Turnkey Consulting used data from the one ATR in Region 5, which is located on SH-160 near Durango. October data was multiplied by 1.16 to obtain peak season volumes. The following table shows raw and adjusted 2007 volumes for the SH-90/SH-141 intersection.

Table 3 – Existing 2007 PM Peak Hour Traffic Volumes at SH-90 & SH-141 (vph)

	Eastbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R
Raw Field Count	1	NA	13	18	12	NA	NA	17	1
Adjusted to Peak Season	1	NA	15	21	14	NA	NA	20	1

2.2 Future Background Traffic Volumes

The mill will open in 2010 so the 20-year condition is 2030. Current traffic on the roadway network was adjusted to reflect background traffic in 2030.

CDOT estimates that SH-90 traffic would have a 20-year growth factor of 1.96, which is an annual average of 3.4%. This results in a growth factor of 2.16 for the 2030 condition (growing from 2007 to 2030). This growth factor was applied to 2007 traffic volumes for the intersection of Site Access/SH-90 to obtain the future background traffic volumes shown in the next section.

CDOT estimates that SH-141 would have a 20-year growth factor of 2.13, which is an annual average of 3.85%. This results in a growth factor of 2.39 for the 2030 condition (growing from 2007 to 2030). This growth factor was applied to the existing traffic volumes for the intersection of SH-90/SH-141 to obtain the future background traffic volumes shown in the next section.

2.3 Future Total Traffic Volumes (Background + Project)

Future total traffic is the sum of project trips and background traffic, as shown in the following table. Project trip generation and distributions from Section 1.3 and Section 1.4

Table 4 – 2030 PM Peak-Hour Traffic Volumes (DHV)
Site Access & SH-90

	Eastbound			Westbound			Northbound	
	L	T	R	L	T	R	L	R
Future Background Traffic	NA	41	0	0	41	NA	0	0
Project Traffic	NA	0	7	17	0	NA	8	28
Total	***NA***	***41***	***7***	***17***	***41***	***NA***	***8***	***28***

Table 5 – 2030 PM Peak-Hour Traffic Volumes (DHV)
SH-90 & SH-141

	Eastbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R
Future Background Traffic	2	NA	36	50	33	NA	NA	50	2
Project Traffic	14	NA	14	8	0	NA	NA	0	9
Total	***16***	***NA***	***50***	***58***	***33***	***NA***	***NA***	***50***	***11***

3 CDOT Turn Lane Evaluation

All highways in the study area have an "RB" access classification, which is the basis for CDOT turn lane warrants. The existing speed limit is 65 mph on SH-90 at the Site Access point. The speed limit is 45 mph on SH-141 at the intersection of SH-90. The following tables summarize the evaluation of CDOT turn lanes at both intersections, which was done for the 2030 conditions.

Table 6 - Comparison of Future Turning Volumes to Turn Lane Warrants - Site Access & SH-90

Auxiliary Lane	Future Conditions	Warrants (vph)	Lane Warranted?
Left Turn Deceleration Lane (inbound)	Inbound left turn DHV: = 37 vph (const AM) = 28 vph (ops AM)	Left turn ingress volume more than 10 vph	Yes
Right Turn Deceleration Lane (inbound)	Inbound right turn DHV: = 6 vph (const AM) = 8 vph (ops AM)	Right turn ingress volume more than 25 vph	No
Left Turn Acceleration Lane (outbound)	Posted speed = 65 mph Outbound left turn DHV: = 6 vph (const PM) = 8 vph (ops PM)	May be required if it would be a benefit to the safety and operation of the roadway or as determined by subsection 3.5. A left turn acceleration lane is generally not required where: the posted speed is less than 45 mph, or the intersection is signalized, or the acceleration lane would interfere with the left turn ingress movements to any other access.	No – see statement on next page
Right Turn Acceleration Lane (outbound)	Posted Speed = 65 Outbound right turn DHV = 37 vph (const PM) = 28 vph (ops PM)	Greater than 50 vph, when the posted speed on the highway is 45 mph or greater and the highway has only one lane for through traffic in the direction of the right turn.	No – see statement on next page

Statement on need for left turn acceleration lane

Section 3.5(3) of the State Highway Access Code provides guidance beyond the warrants shown in the table above. It states:

> (3) If necessary, for specifically identified and documented safety and operation reasons, a left turn acceleration lane may be required when unique location factors such as; highway speed and traffic density, access volume, the volume of commercial trucks, the influence of nearby access, existing highway auxiliary lanes close to the access, nearby traffic control devices, available stopping sight distance, and where other topographic and highway design factors exist that determine the need.

Section 3.5(5) of the State Highway Access Code indicates that the left turn acceleration lane may be dropped if the volume in the inside lane in the direction of travel is predicted to be below 120 DHV. This volume would be 41 vph in 2030.

A left turn acceleration lane is not recommended at the intersection of Site Access & SH-90 for the following reasons:

1. Based on the field review, there does not appear to be and any specific identified safety or operational reasons for the lane.
2. The turning volume (8 vph) would be low, and the density of turning vehicles would be low (average nearly 8 minutes between turning vehicles).
3. Westbound through volumes would be low (41 vph), and through volume vehicle density would be low (average nearly 1.5 minutes between vehicles).

Statement on need for Right turn acceleration lane

Section 3.5(2) of the State Highway Access Code provides guidance beyond the warrants shown in the table above. It states:

> (2) If necessary, for specifically identified and documented safety and operation reasons, a right turn acceleration lane may be required when, a) for any access where a high traffic volume on the highway or using the access and the lack of acceptable gaps in traffic make use of an acceleration lane necessary for vehicles to safely and efficiently enter the highway traffic flow through the use of available short gaps in traffic, or b) where necessary for public safety and traffic operations based upon site and roadway specific conditions such as horizontal and vertical curves, or c) the posted speed is greater than 40 MPH.

Section 3.5(5) of the State Highway Access Code indicates that the right turn acceleration lane may be dropped if the adjacent traveled lane is predicted to be below 120 DHV. This volume would be 41 vph in 2030.

A right turn acceleration lane is not recommended at the intersection of Site Access & SH-90 for the following reasons:

1. Based on the field review, there does not appear to be and any specific identified safety or operational reasons for the lane.
2. The turning volume (28 vph) would be low, and the density of turning vehicles would be low (average over 2 minutes between turning vehicles).
3. Eastbound through volumes would be low (41 vph), and through volume vehicle density would be low (average nearly 1.5 minutes between vehicles).

However, it is necessary to consider slightly higher construction traffic volumes and the type of design vehicle making the right turn movement. Therefore, it is recommended that a 10-ft wide paved shoulder be constructed to the east of the Site Access point. This will provide some type of refuge area for accelerating vehicles if the need arises.

Table 7 - Comparison of Future Turning Volumes to Turn Lane Warrants - SH-90 & SH-141

Auxiliary Lanes on SH-141	2030 Volume (vph)	Warrants (vph)	Lane Warranted?
NB Left Turn Deceleration Lane	Left Turn DHV = 58 (50 background + 8 Project)	Left turn volume more than 10 vph	Yes – based on existing traffic*
SB Right Turn Deceleration Lane	Right Turn DHV = 11 (2 background + 9 Project)	Right turn volume more than 25 vph	No
EB to NB Left Turn Acceleration Lane	Posted speed = 45 mph Left Turn DHV = 16 (2 background + 14 Project)	A left turn acceleration lane is generally not required where: the posted speed is less than 45 mph, or the intersection is signalized, or the acceleration lane would interfere with the left turn ingress movements to any other access.	No
EB to SB Right Turn Acceleration Lane	Posted speed = 45 mph Right Turn DHV = 50 (36 background + 14 Project)	Greater than 50 vph, when the posted speed on the highway is 45 mph or greater and the highway has only one lane for through traffic in the direction of the right turn.	No

*The NB Left Turn Deceleration Lane is currently warranted on SH-141 based on existing traffic volumes (50 vph), and would likely not be the responsibility of the applicant (who contributes 8 vph).

4 PM Peak Hour Traffic Operations - 2030

Site Access & SH-90 Intersection

This intersection will operate at LOS "A" in the 2030 PM peak hour condition. The average vehicle delay on any constrained movement is less than 10 seconds per vehicle. The calculation is based on the volumes in Table 4, which includes project traffic as PCE values, the existing intersection geometry, and an 80% truck factor. The peak hour factor was 0.88. The Appendix includes the results of the detailed Highway Capacity Software analysis.

SH-90& SH-141 Intersection

This intersection will operate at LOS "A" in the 2030 PM peak hour condition. The average vehicle delay on any constrained movement is less than 10 seconds per vehicle. The calculation is based on the volumes in Table, which includes project traffic as PCE value, the existing intersection geometry, and a 20% truck factor. The peak hour factor was 0.88. The Appendix includes the results of the detailed Highway Capacity Software analysis.

5 CDOT Turn Lane Geometric Requirements

The CDOT Access Code section 4.8 states that deceleration length and storage must be a component of speed change lane length on Access Category RB roads. Both SH-90 and SH-141 are classified as RB roads. The CDOT design vehicle for an industrial project is multi-unit trucks. The following table shows the CDOT design requirements, per the State Highway Access Code, Section 4.

Table 8 – Left Turn Deceleration Lane Geometry

Design Consideration	Site Access/SH-90 (Class R-B) CDOT Requirements at 65 mph
Decel Length	960 ft*
Storage	25 ft
Decel Taper	300 ft
Taper Length	Included in deceleration length
Transition Taper Ratio	25:1
Median Lane Width	16 ft
Through Lane Width	12 ft
Shoulder Width	6 ft
Redirect Taper Ratio	65:1
Redirect Taper Length	520 ft

*Grade adjustments for a 3-4.9% downgrade have been applied to the left turn deceleration lane at the intersection of Site Access/SH-90. The decel lane length without grade adjustments was 800 ft. CDOT requires a factor of 1.2 to be applied, resulting in a lane length of 960 ft.

The description of the deceleration lane length is included in the grade adjustment comment above. The State Highway Access Code Table 4-8 indicates that storage for a lane with fewer than 30 vehicles per peak hour would be 25 feet. The deceleration taper would be 300 feet, as it was included in the deceleration length at a ratio of 25:1 (State Highway Access Code Section 4.8 (3a) through Lane width = 12 feet; 12 x 25 = 300). State Highway Access Code Section 4.8 (6a) requires a median lane width of 16 feet. Half of this width is 8 feet. The Redirect Taper Ratio is 65:1. Therefore, the Redirect Taper Length is 65 x 8 feet = 520 feet. There are two redirect tapers included in the turn lane: one to the east of the 985-foot deceleration lane and one to the west of the access radii (150 feet). Therefore, the entire length of the left turn deceleration lane on the highway would be 2175 feet (520 feet + 150 feet + 985 feet + 520 feet).

6 Sight Distance Considerations at Site Access Point

Sight distance considerations were examined for the proposed Site Access/SH-90 intersection only. Please see the attached photos. The site access location will be dictated by the BLM property to the west. The mill would like to avoid SH-90 widening improvements within BLM land. The existing site distance is approximately:

- Over 1300 feet to the west
- 850 feet to the east

6.1 Sight Distance Along Highway

Regarding sight distance at the intersection of Site Access/SH-90, there were not any physical features (signs, walls, berms, plants, etc.) within the sight zones of the intersection of Site Access/SH-90. According to Table 4-1 of the State Highway Access Code, the design sight distance for a speed limit of 65 mph is 725 feet. Table 4-4 of the State Highway Access code requires the application of a factor = 1.2 for a 4% downgrade, resulting in a grade adjusted distance of 870 feet. The site distance along the highway is adequate in both directions.

6.2 Entering Sight Distance

Table 4-2 in the State Highway Access Code provides required entering sight distances based on posted speed, roadway width, and design vehicle type. For a posted speed limit of 65 mph for a two-lane roadway with multi-unit trucks, the required entering site distance is 1105 feet. The sight distance to the west of the Site Access is adequate. The sight distance to the east of the Site Access is approximately 850 feet due to a crest vertical curve. Since actual sight distance would be less than the requirement, a

CDOT design waiver should be submitted to CDOT for consideration. The waiver could recommend any of the following options as mitigation.

- Additional warning signs should be placed on westbound SH-90 at the crest of the vertical curve. The recommended warning sign is "Truck Crossing" (W8-6) with a supplemental distance plaque "XXX feet" (W16-2a). The sign recommendation is similar to other locations in CDOT Region 5.
- A simple ITS solution could be implemented. It could include a flashing beacon mounted on a signpost at the crest of the vertical curve. The sign could read, "Trucks Entering Highway When Flashing." The beacon would be activated by a vehicle detector at the exit point of the Site Access, which would be hard-wired to the flashing beacon.

7 Conclusion

This report summarizes the assessment of future traffic conditions in consideration of new Project traffic. The assessment included a turn lane warrant analysis, intersection operation analysis, a site distance evaluation, and traffic impact mitigation recommendations. The recommendations address two intersections on the state highway system.

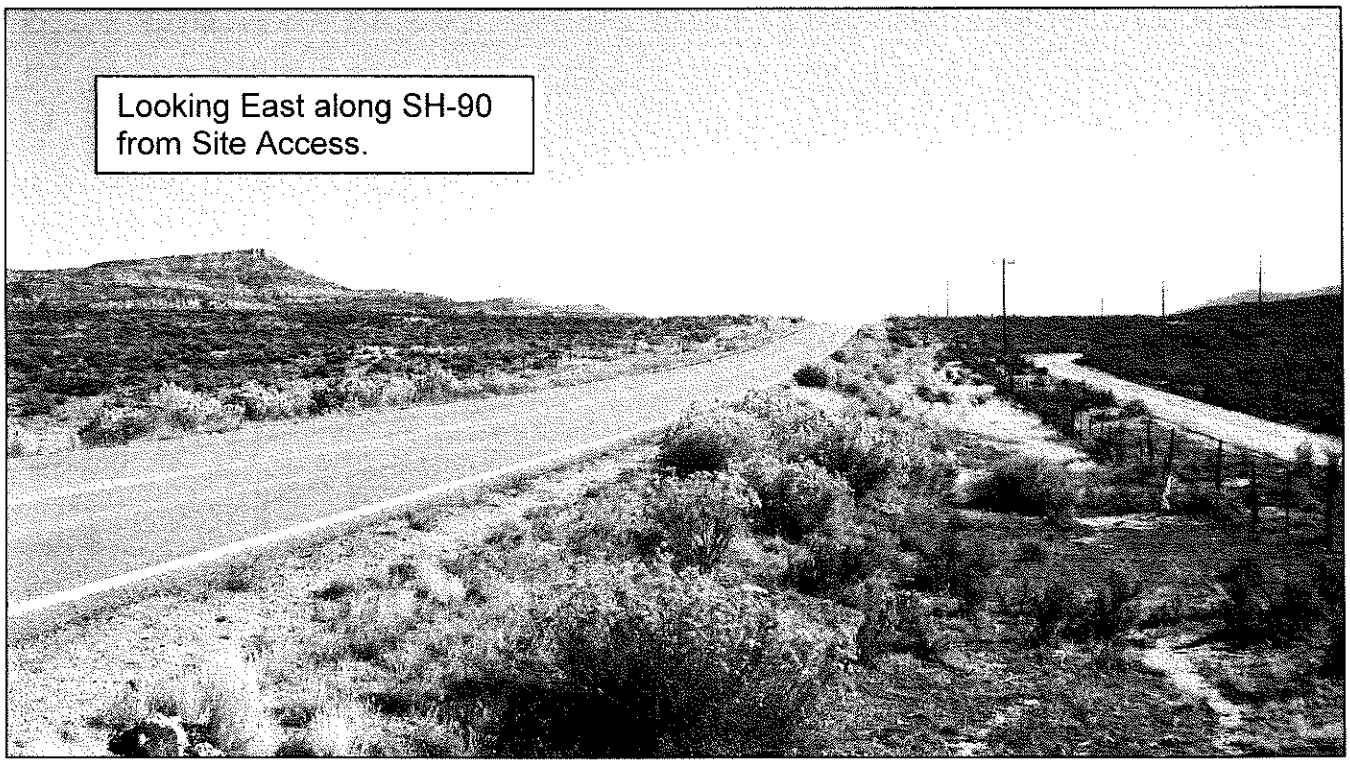
Site Access & SH-90

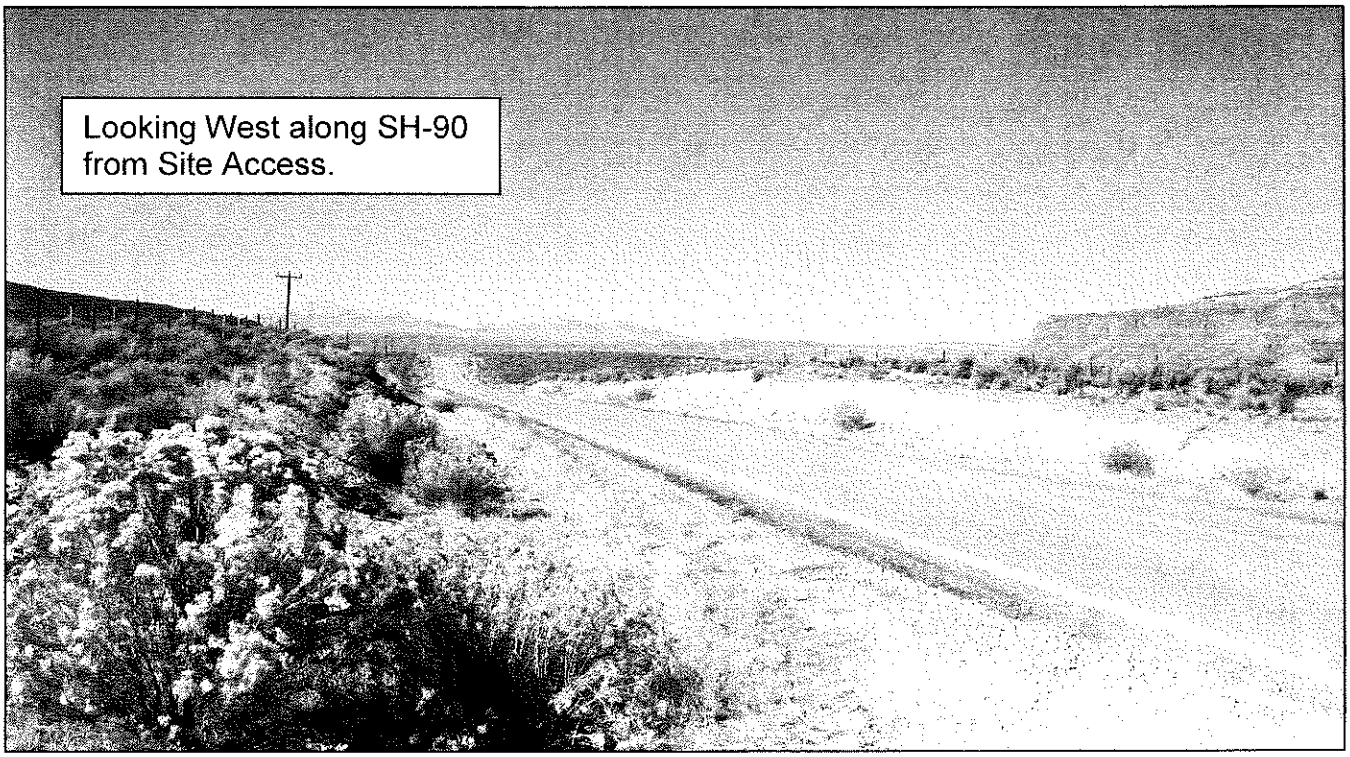
According to CDOT criteria, a left-turn deceleration lane is warranted to make the Project access operate safely. In addition, a 10-ft wide shoulder is recommended on the south side of SH-90, east of the Site Access Point. The entire length of highway widening would be 2,175 feet.

The proposed Site Access location does not meet the CDOT's entering sight distance requirement. Therefore, it is recommended that additional warning signs be placed on westbound SH-90 at the crest of the vertical curve located east of the Site Access. These could be static signs or they could by dynamic signs that react to actual traffic conditions.

SH-90 & SH-141

According to CDOT criteria, a left-turn deceleration lane is warranted to make this intersection safe. It should be noted that this lane is warranted due to existing background traffic, regardless of the addition of project traffic.


Looking East along SH-90
from Site Access.


Looking West along SH-90
from Site Access.

Response to CDOT Review Comments Dated 2/11/08

Comment #1. Please describe how this TIS relates to the Department of Energy and Bureau of Land Management permits issued to date, as well as the overall DOE Environmental Impact Study.

Statement from the Project Professional Engineer

Ore Haulage to the Piñon Ridge Mill
Montrose County, Colorado
Frank Filas, P.E. 2-18-2009

Energy Fuels plans to permit the Piñon Ridge Uranium Mill for processing 1,000 tons of ore per day (tpd) on a 350-day work schedule. Approval of our license by CDPHE is expected in mid-2010 with mill construction scheduled for the second half of 2010. We may also permit an ore pad with the Colorado Division of Reclamation, Mining and Safety that could be built and used to stockpile ore in advance of mill construction.

Although permitted for 1,000 tpd, Energy Fuels plans to build the plant to initially process 500 tpd and then expand the mill at a later time as revenues are generated and contracts with other uranium mining companies are established. It would be a minimum of three years after construction before the mill could be expanded to its full capacity. A 500-tpd mill will require 175,000 tons of ore shipped per year while a 1,000-tpd mill will require shipment of 350,000 tons per year.

Initially, Energy Fuels plans to feed the 500-tpd mill primarily with ore from its mines with the balance being contributed by small, yet to be determined mine operations. We have had discussions with a number of small miners that could produce 25 to 50 tpd for a period of time; however, we cannot finalize purchase or toll-milling agreements until the mill license is issued and additional financing for the mill is secured.

Most of the initial ore for the mill will be supplied by the Whirlwind Mine and the Energy Queen Mine. Both of these mines are in an advanced permitting stage and are capable of producing 200 tpd over a 5-day workweek. This is equivalent to 50,000 tons per year for each mine, which represents over half the required mill feed.

The Whirlwind Mine is located 11 miles by county road from Gateway, Colorado. Ore from this mine would be transported from the mine to Highway 141, then south to Highway 90, and then west to the mill. The Energy Queen Mine is located west of La Sal, Utah on Utah Highway 46. Ore from this mine would be shipped east on Highway 46 (which becomes Highway 90 in Colorado) to the mill.

Energy Fuels is currently in discussions with other companies regarding the purchase of existing mines of similar capacity to the Whirlwind Mine that may be permitted and

brought into production by 2010. Most of these existing mines are located in Utah and would ship ore east to the mill via Highway 46/90. Energy Fuels also has on-going exploration and prospecting projects throughout the Colorado Plateau and Arizona strip including San Miguel, Montrose, and Mesa counties in Colorado and Grand and San Juan counties in Utah. Some of these projects could be permitted as mines by 2010; however, they would likely be smaller mines (e.g., 50 tpd).

None of Energy Fuels current mining and exploration properties is part of the DOE uranium lease program. The open-pit and underground mines located near the mill site are controlled by Cotter Corporation. These mines are on standby and previously shipped their ore to the Cotter mill in Canyon City. Energy Fuels may bid on several leases when DOE initiates their leasing program; however, there is no guarantee that we would acquire a specific lease.

The traffic routes for future haulage to the mill were developed based on the location of Energy Fuels properties, potential acquisitions, and independent mine operators that may sell to the mill. We estimated that 25 percent would come from the north on Hwy 141 to Hwy 90, 25 percent would come from the south on Hwy 141 to Hwy 90, and 50 percent would come from the west on Hwy 46/90. This estimate is based on the best information we have at this time.

Statements from the DOE Environmental Assessment

The DOE Office of Legacy Management issued the Uranium Leasing Program Final Programmatic Environment Assessment (DOE/EA-1535) in July 2007. The following excerpts were obtained from this document.

4.3 Transportation

Numerous unimproved roads constructed on public lands exist on and around the lease tracts. Many of these roads were constructed by the mining and ranching industries before BLM developed regulations for authorizing road construction and use. However, many of these roads are currently maintained by county agencies or BLM. Two major roadways traverse the lease tract areas: State Highway 141 and State Highway 90 (see Figures 3–2 and 3–3). State Highway 141 is the primary access to the Uravan, Slick Rock, and Gateway lease tracts, and State Highway 90 is the primary access to the Paradox Valley lease tracts. Numerous county roads serve as the collector routes from the lease tracts to these state highways. Although most of these roads pass through uninhabited public lands, 15 residences among the 38 lease tracts could be affected by ore shipments traveling these haul roads en route to the state highways and, subsequently, to the ore-processing mills. Routes that pass 13 of the 15 residences have been used in the last 10 years to haul uranium ore, and all the routes have been used to haul ore in the last 30 years. Subsection 3.5.2.2, "Mine Development and Operation," describes the haul routes that haul trucks would take to transport ore from the lease tracts to the processing mills. On the basis of Colorado Department of Transportation (CDOT) highway statistics for calendar year 2000 (CDOT 2000), the

fatality and injury rates from accidents along all state highways were 0.015 fatality per million vehicle miles and 0.63 injury per million vehicle miles. For total rural state highways, which represent the bulk of the haul routes, the fatality rate is about the same (0.018), and the accident rate is about half that of total highways (0.36 per million vehicle miles). Information from CDOT and Utah DOT indicate that the majority of accidents occur at intersections and on curved sections of the highways. Primary locations of accidents along the haul routes include (1) intersections on U.S. Highway 50 in Montrose, (2) curved sections of U.S. Highway 50 approximately 10 miles east of Montrose, (3) curved sections of U.S. Highway 50 on Monarch Pass, (4) intersections on U.S. Highway 50 within 5 miles of Canon City, (5) the intersection of U.S. Highways 191 and 491 in Monticello, (6) steep, curved sections of State Highways 46 and 90 east of La Sal, and (7) the 18-mile section of U.S. Highway 191 immediately south of Monticello.

Several perennial water sources occur along the haul routes. The San Miguel River parallels State Highway 141 from Uravan to Naturita. The Dolores River parallels State Highway 141 for approximately 1 mile at Slick Rock, and again for several miles from its confluence with the San Miguel River to Gateway. State Highway 90 crosses the Dolores River at Bedrock. The San Miguel River parallels State Highway 145 between Norwood and Placerville. Leopard Creek parallels State Highway 62 from Placerville to the top of Dallas Divide. The Uncompahgre River parallels U.S. Highway 550 between Ridgway and Montrose, and Ridgway Reservoir parallels the highway for several miles north of Ridgway. U.S. Highway 50 passes near the Black Canyon of the Gunnison National Park just east of Montrose. Additionally, it passes through the Cosecant National Recreational Area, parallels the Blue Mesa Reservoir between Montrose and Gunnison along a portion of the West Elk Scenic & Historic Byway, and finally parallels portions of the Gunnison River further eastward into the town of Gunnison. The Arkansas River parallels U.S. Highway 50 for approximately 50 miles between Salida and Cañon City.

3.5.2.2 Mine Development and Operation

Subsection on Transportation

Uranium and vanadium ores produced on the lease tracts would be transported to an existing mill or receiving facility for processing. Currently, two mills might be available for processing lease tract ores: the White Mesa Mill near Blanding, Utah, and the Cañon City Mill near Cañon City, Colorado. A third mill, the Shootaring Canyon Mill near Ticaboo, Utah, is currently amending its license to become operational and might be available in the future for processing ores. Use of this milling facility by the leaseholders for processing lease tract ores is unlikely because of the additional transportation costs that would be incurred by bypassing the White Mesa Mill. However, efforts to license a new mill within Paradox Valley have recently been reported in the local and regional press. If such a mill were licensed, built, and operated in the vicinity of DOE's lease tracts it would likely result in large decreases in shipments to the existing mills due to the reduced cost of transportation. Because no formal proposal has been either received or

acted upon by the State of Colorado as the regulator, a new mill site is too speculative at this time to include in quantitative or qualitative analyses of this final PEA.

Before transporting ore to the processing mills, the leaseholder would be required to comply with DOT hazardous materials regulations codified at 49 CFR 170–180. These regulations require the leaseholder to identify the actions that would be taken in case of an emergency or spill. Ore could be transported to the mills by covered truck, covered truck and pup (trailer), train, or a combination of truck and train. However, the train and truck-and-train methods would not be economical during the next 10 years because a railroad loading facility no longer exists in the lease tract areas. In this final PEA, only the covered truck and covered truck-and-pup methods are assessed.

Typically, the collector routes, leading from the lease tracts to the various paved highways discussed herein, are county roads that were used extensively for ore-transportation activities in the past, particularly during the last uranium boom in the late 1970s and early 1980s. Other undeveloped roadways might need to be upgraded in the future, and those would be identified and dealt with as the need arises through the county's conditional use permit process.

For the purpose of analyzing alternatives in this final PEA, the potential increased haul-truck traffic on various Colorado and Utah highway segments has been evaluated. That evaluation was based on a conservative or "worst-case" transportation scenario which included the simultaneous and immediate development of all potential DOE lease tracts and the transport of all ore materials to each mill. In reality, lease tracts would be developed over time and at levels commensurate with available capital for development, desirability, and quality of the ore for mining, as well as other factors that may include availability of workforce and national and international uranium and vanadium prices. It is also likely that ore would be transported to more than one mill or even that a new processing plant could be constructed in the area; both of these situations would reduce the estimated haul-truck traffic on area highways.

Accordingly, in this final PEA, DOE has also evaluated the potential impacts associated with the haul-truck traffic that can reasonably be expected to occur.

For the Expanded Program alternative, the number of haul trucks transporting ore to the mills is expected to increase compared to the number of trucks in the recent past. The average haul rate during periods of production between 1974 and 1994 was 30 haul trucks per day for all the DOE lease tracts combined; this number is assumed to be the worst-case scenario for the Existing Program alternative. In 1980, when ore production from the lease tracts was at its peak, the haul rate never exceeded 40 haul trucks per day. For the Expanded Program alternative, the worst case scenario haul rate is based on the estimated number and sizes of the mining operations (as discussed in Section 3.2), the capacity of the haul trucks (25 tons), and the number of days per month (30). Accordingly, the estimated peak production rate for the 38 lease tracts under the expanded alternative could be as high as 90,000 tons of ore per month, which equates to

3,600 haul trucks per month, or an average of 120 haul trucks per day, one way. Therefore, for the worst-case transportation analysis in this final PEA, it has been assumed that the maximum number of haul trucks would be 150 haul trucks per day, one way.

For this final PEA, a more realistic ore production and transportation evaluation that depicts the level of activities that are likely to be seen during the next 10 years, based on historical production data and current market trends, has also been included. For this realistic evaluation, it is assumed that lease tract production would be similar to that seen in the late 1970s and early 1980s. During that time, which was economically equivalent to today's uranium market, only 25 of the 38 lease tracts (approximately two thirds) were ever brought into production, and total ore production from the lease tracts averaged less than 25,000 tons per month (see Table 3–3). Under the Expanded Program alternative, it is assumed that lease tract activities would likely continue in phases; new mines would be brought into production, and other mines would shut down as their ore reserves were depleted. The maximum number of haul trucks for this realistic evaluation would then decrease dramatically (from the worst-case scenario discussed above) to 57 haul trucks per day, or 72 haul trucks per day if the lease tract 7 open-pit mine were brought into production. Furthermore, based on transportation costs (all other costs being equitable); DOE has assumed that most ore produced from the lease tracts (excluding the ore produced from Cotter's seven northernmost lease tracts) would be shipped south to the White Mesa Mill. Based on this realistic evaluation, a maximum of 18 trucks per day (one way) would travel from the DOE lease tracts eastward to the Cañon City Mill, and a maximum of 39 haul trucks per day (one way), or 54 haul trucks per day (one way) if the lease tract 7 open-pit mine were operational, would travel from the DOE lease tracts southward to the White Mesa Mill. As shown in Table 3–3, the projected number of haul trucks entering the state's highway system from specific county roads identified as the "collector routes" from the various lease tract areas (see Plate 1) would typically be one or two haul trucks per hour, with a maximum of five haul trucks per hour from County Road DD19 if the lease tract 7 open-pit mine were operational.

Figure 3–2 shows the potential haul routes for the Expanded Program alternative. To support the discussions of impacts in Section 5.2.1 and Table 5–1, highway segments have been alphabetically labeled on Figure 3–2 from "A" to "MM." Two primary routes access the Cañon City Mill, and three primary routes access the White Mesa Mill.

For the Expanded Program alternative, it is assumed that the northernmost routes to either mill would be used only by haul trucks traveling from tracts near the Gateway area; this route would be more indirect for other lease tracts. Additionally, based on the realistic evaluation, the northernmost route to either mill would be eliminated from use because any ore produced from the lease tracts near Gateway would likely be shipped south to the White Mesa Mill via a more direct route that would lower the associated ore-transportation costs.

Hauling ore along the northernmost route to the Cañon City Mill would require transport through Mesa, Delta, Montrose, Ouray, Gunnison, Chaffee, and Fremont Counties, Colorado. BLM roads, county roads, and State Highway 141 would serve as collector routes from the lease tracts. Haul trucks traveling along State Highway 141 would meet with U.S. Highway 50 at Whitewater, southeast of Grand Junction. Haul trucks would travel through Delta, Olathe, Montrose, Gunnison, Salida, and Cañon City to the Cañon City Mill. The total distance along this route to the Cañon City Mill would be approximately 280 miles. More than 90 percent of these routes are paved and have at least two lanes; four-lane roads exist from Grand Junction to Montrose and near the cities of Gunnison and Cañon City.

Hauling ore to the Cañon City Mill along the southern route would require transport through Mesa, San Miguel, Montrose, Ouray, Gunnison, Chaffee, and Fremont Counties, Colorado. BLM roads, county roads, and State Highways 90 and 141 would serve as collector routes from the lease tracts. These collector routes meet with State Highway 145 about 5 miles east of Naturita. Haul trucks would proceed southeast along State Highway 145 through Norwood to Placerville, then northeast to Ridgway along State Highway 62. At Ridgway, the haul trucks would proceed north to Montrose along U.S. Highway 550, then east onto U.S. Highway 50 through Gunnison, Salida, and Cañon City to the Cañon City Mill. The maximum total distance from the most distant lease tracts to the Cañon City Mill is approximately 320 miles.

Hauling ore along the northernmost route to the White Mesa Mill (however unlikely) would include transport through Mesa County, Colorado, and Grand and San Juan Counties, Utah. Collector routes from the lease tracts would include BLM roads, county roads, and State Highway 141. At Whitewater, haul trucks would travel on U.S. Highway 50 until it joined with the U.S. Interstate 70 business route in Grand Junction, then west along U.S. Interstate 70 into Utah. At the Crescent Junction exit, haul trucks would travel south on U.S. Highway 191 through Moab, Monticello, and Blanding to the White Mesa Mill. The mill is approximately 6 miles south of Blanding. Depending on point of origin, the total distance is approximately 270 miles. With the exception of BLM roads and county roads, all roads are paved and have at least two lanes. U.S. Interstate 70 and a portion of U.S. 191 have four lanes.

Hauling ore along the middle route to the White Mesa Mill would include transport through Montrose and San Miguel Counties, Colorado, and San Juan County, Utah. Collector routes from the lease tracts would include BLM roads, county roads, and State Highways 141 and 90. At the Utah-Colorado border, State Highway 90 changes to Utah State Highway 46. Haul trucks would proceed west along Utah State Highway 46 through La Sal to the intersection with U.S. Highway 191, then south through Monticello and Blanding to the White Mesa Mill. The mill is approximately 6 miles south of Blanding. The total distance from the lease tracts to the White Mesa Mill varies between 100 and 160 miles, depending on point of origin. More than 90 percent of the route consists of paved, two-lane roads; four-lane roads exist in Monticello and Blanding.

Hauling ore along the southern route to the White Mesa Mill would require transport through Montrose, San Miguel, and Dolores Counties, Colorado, and San Juan County, Utah. The collector routes would be the same as those used for the northern route. At the intersection of State Highway 141 and U.S. Highway 491 near Dove Creek, the haul trucks would proceed west along U.S. Highway 491 to Monticello, Utah, and then south on U.S. Highway 191 through Blanding to the White Mesa Mill. The total distance from the lease tracts to the White Mesa Mill varies between 70 and 170 miles, depending on point of origin.

Most leaseholders would prefer to transport ore to the White Mesa Mill because of its proximity to the lease tracts. However, depending on mill-feed requirements, leaseholders would retain the right to transport ore to the Cañon City Mill when mill feed and economic conditions warrant.

Existing Program Alternative

As stated previously, the worst-case scenario for the Existing Program alternative is an average of 30 haul trucks per day and a maximum of 50 haul trucks per day. For the realistic evaluation, lease tract production would be similar to that of the late 1970s and early 1980s. During that time, 12 of the 13 active lease tracts were brought into production, and total ore production from the lease tracts averaged less than 14,000 tons per month (see Table 3–4). Under the Existing Program alternative, it is assumed that this scenario would likely continue as described previously. The maximum number of haul trucks for the realistic evaluation would remain at 30 haul trucks per day, with a maximum of 45 haul trucks per day if the lease tract 7 open-pit mine were brought into production. Furthermore, based on transportation costs (all other costs being equitable); DOE has assumed that most ore produced from the lease tracts (excluding the ore produced from Cotter's seven northernmost lease tracts) would be shipped south to the White Mesa Mill. Based on the realistic evaluation, a maximum of 18 trucks per day (one way) would travel from the DOE lease tracts eastward to the Cañon City Mill, and a maximum of 12 haul trucks per day (one way), or 27 haul trucks per day (one way) if the lease tract 7 open-pit mine were operational, would travel from the DOE lease tracts southward to the White Mesa Mill. As shown in Table 3–4, the projected number of haul trucks entering the state's highway system from specific county roads identified as the collector routes from the various lease tract areas (see Plate 1) would typically be one haul truck per hour, with a maximum of five haul trucks per hour from County Road DD19 if the lease tract 7 open-pit mine were operational.

Figure 3–3 shows the haul routes to the processing mills for the Existing Program alternative. One primary route accesses the Cañon City Mill, and two primary routes access the White Mesa Mill. To support the discussions of impacts in Section 5.2.2 and Table 5–2, highway segments have been alphabetically labeled on Figure 3–3 from "A" to "Z."

Under the Existing Program alternative, hauling ore to the Cañon City Mill would require

transport through San Miguel, Montrose, Ouray, Gunnison, Chaffee, and Fremont Counties, Colorado. BLM roads, county roads, and State Highways 90 and 141 would serve as collector routes from the lease tracts. These collector routes meet with State Highway 145 about 5 miles east of Naturita. Haul trucks would precede southeast along State Highway 145 through Norwood to Placerville, then northeast to Ridgway along State Highway 62. At Ridgway, the haul trucks would proceed north to Montrose along U.S. Highway 550, then east onto U.S. Highway 50 through Gunnison, Salida, and Cañon City to the Cañon City Mill. The maximum total distance from the most distant lease tracts to the Cañon City Mill is approximately 320 miles.

Hauling ore along the northern route to the White Mesa Mill under the Existing Program alternative would include transport through Montrose and San Miguel Counties, Colorado, and San Juan County, Utah. Collector routes from the lease tracts would include BLM roads, county roads, and State Highways 90 and 141. At the Utah-Colorado border, State Highway 90 changes to Utah State Highway 46. Haul trucks would proceed west along Utah State Highway 46 through La Sal to the intersection with U.S. Highway 191, then south through Monticello and Blanding to the White Mesa Mill. The mill is approximately 6 miles south of Blanding. The total distance from the lease tracts to the White Mesa Mill varies between 100 and 120 miles. More than 90 percent of the route is paved, two-lane roads; four-lane roads exist in Monticello and Blanding.

Hauling ore along the southern route to the White Mesa Mill would require transport through Montrose, San Miguel, and Dolores Counties, Colorado, and San Juan County, Utah. The collector routes would be the same as those used for the northern route. At the intersection of State Highway 141 and U.S. Highway 491 near Dove Creek, the haul trucks would travel west along U.S. Highway 491 to Monticello, Utah, and then south on U.S. Highway 191 through Blanding to the White Mesa Mill. The total distance from the lease tracts to the White Mesa Mill varies between 70 and 130 miles.

End of Excerpt

TurnKey Consulting extracted data from EA Tables 5-1, 5-3, 5-5, and 5-7 in order to create the following summary table:

Condition	**Increased number of Trucks Per Day – Entire Lease Program (not just the subject Project)**	
	SH-90 – Just west of SH-141	**SH-141 – just north of SH-90**
Expanded Program – Worst Case	126 vpd	79 vpd
Expanded Program – Realistic	70 vpd	46 vpd
Existing Program – Worst Case	38 vpd	30 vpd
Existing Program - Realistic	62 vpd	10 vpd

Assuming the same 10 hour per day hauling schedule, the worst case peak hour loads would be 13 vph on SH-90 and 8 vph on SH-141. The best case peak hour loads would

be 4 vph on SH-90 and 1 vph on SH-141. These numbers correlate with the trip generation estimates shown on Table 1 and the total traffic shown on Table 5.

Comment #2. What were the trip generation volumes based on? One single unit truck per day seems low for a mill site. Please define "multi-unit vehicle." Please provide data that supports these numbers.

The Trip Generation numbers have been revised in accordance with the detailed information provided by the Project operator. Please see Sections 1.3 & 1.4, the Appendix, and the response to Comment #1. The State Highway Access Code Table 4-2 and Table 4-3 reference "multi-unit trucks," but there is not any definition provided. The study used this wording to match the Code's wording, and we would have the same definition as CDOT.

Comment #3. Section 1.4 Trip Distribution states that an email from the client is attached which supports the directional distribution on SH 90 and SH 141. It was not included in the current report. Please attach to the revised traffic impact study.

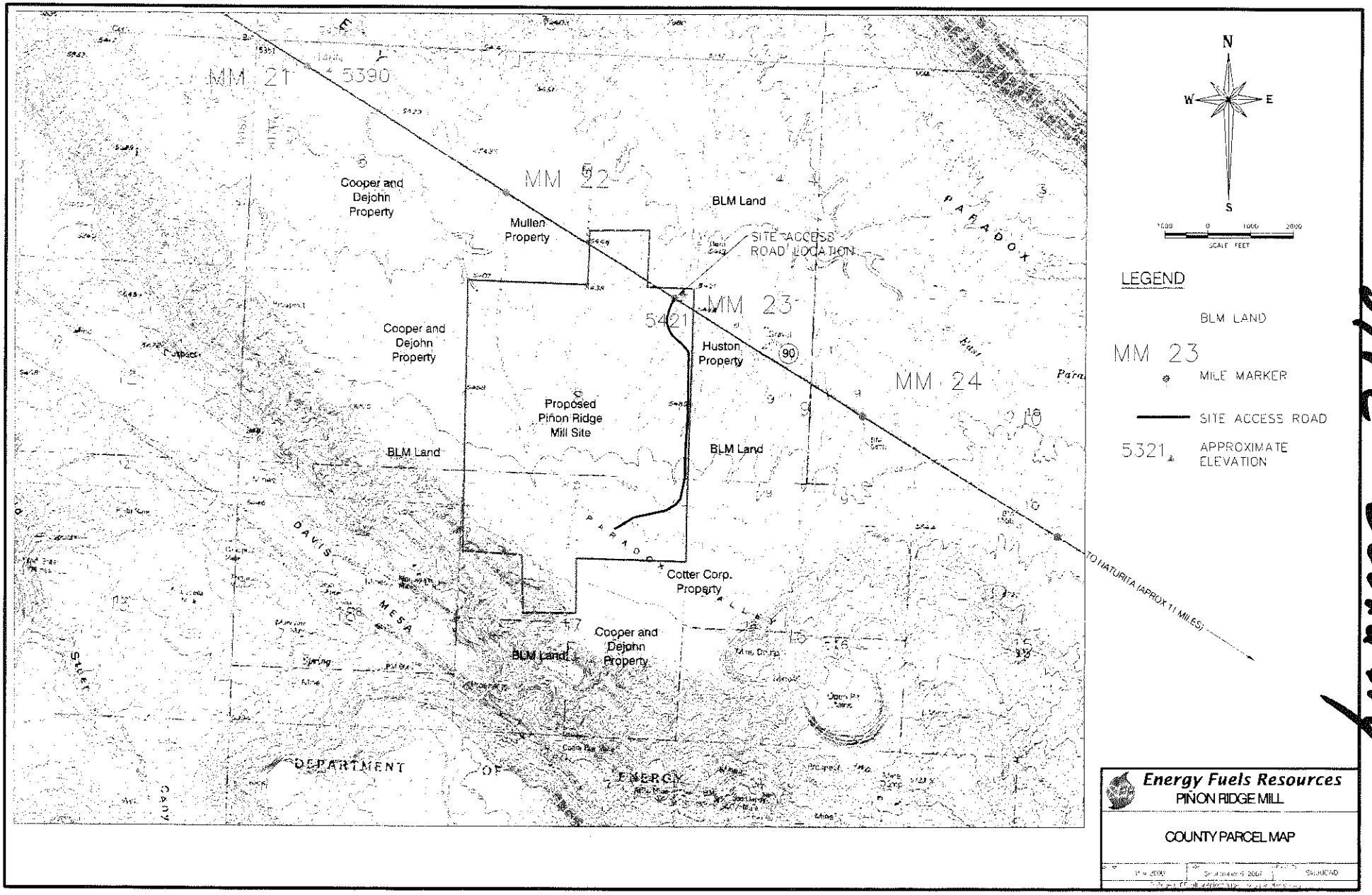
The referenced document is attached and this information is also provided in the response to Comment #1.

Comment #4. In section 2.1 Existing Peak Hour Traffic Volumes, traffic counts taken on October 19, 2007 were referred to for the intersection of SH 90 and SH 141. Please attach the traffic count data to the revised traffic impact study. Additionally, the background traffic counts will need to be adjusted with a seasonal factor to the peak month of July.

The traffic count summary sheet was included in the study you reviewed. It is still located in the Appendix of this document. The existing counts were adjusted by a factor of 1.16, based on data from the only ATR I could find in Region 5 (SH-160, near MP 100). CDOT does not have any other information. Jim Horn confirmed that this would be the best information available.

Comment #5. Please perform a Level of Service analysis for the site access on SH 90. The LOS should use a peak hour factor of 0.88 for both the site and SH 141.

The study now includes 2030 operational analysis for both intersections in the study area, with the use of PHF=0.88



Site Boundary

Energy Fuels - Trip Generation calc

Construction

1) Workers @ 10 hour shifts, 6 days per week, 90% East
   - Mill = 50 employees Assume 2-3 workers per vehicle
   - Earthwork / Liner = 15 employees
2) Ore Hauling = 12 trucks per day 50% East/West
3) Const traffic = 30 trucks per day 90% East

Trip Calc - Peak hour

1) Workers → 65 workers, assume 30 vehicles Peak
   PCE Factor = 1.0

   3 inbound AM WB ↔ EB = 27 inbound AM
   3 outbound PM 27 outbound PM

2) Ore → 12 trucks per day, 10 hrs per work day
   PCE Factor = 3 → 36 pce/day = 4 pce/hr

   2 inbound AM+PM WB ↔ EB 2 inbound AM + PM
   2 outbound AM+PM 2 outbound AM + PM

3) Const Traffic → 30 trucks per day, 10 hour work day
   PCE factor = 3.0 → 90 pce/day = 9 pce/hr

   1 inbound AM+PM WB ↔ EB 8 inbound AM + PM
   1 outbound AM+PM 8 outbound AM + PM

4) Total Construction - Peak Hour

	WB		EB	
	AM	PM	AM	PM
In	6	3	37	10
out	3	6	10	37

Ongoing operations

1) Employees → Straight = 20, 60% carpool @ 3 per car
90% East

→ Shift → 68 emp in 4 crews = 17 emp/crew
80% carpool at 3 per car
90% East, 3 shifts/day

2) Visitors → 10 per day, 90% East

3) Trucks → Ore → 1000 Ton/day = 42 trucks/day
10 hour workday, 50% East/50% W.

→ Other → Large → 2 per day, 50% E/W
→ Medium → 4 per day, 100% East

Trip Rates

1. Employees - straight

20 employees x 0.60 = 12 carpool 12/3 = 4 veh
x 0.40 = 8 alone = 8 veh.
12 veh

PCE factor = 1.0

WB: 1 inbound AM, 1 outbound PM
EB: 11 inbound AM, 11 outbound PM

Employees - shift

17 employees x 0.80 = 14 carpool 14/3 = 5 veh.
x 0.20 3 alone = 3 veh.
8 veh./shift

PCE Factor = 1.0

WB: 1 inbound AM & PM, 1 outbound AM & PM
EB: 7 inbound AM & PM, 7 outbound AM & PM

2) Visitors 10 per day - 8 hr day = 1.25 veh/hr

say 1.0

N/A WB EB 1 inbound AM & PM
1 outbound AM & PM

3) Trucks - Ore

42 trucks per day / PCE = 3.0 / 126 pce/day

@ 10 hr workday = 12.6 say 13 pce/hr

6 inbound AM & PM WB EB 7 inbound AM & PM
6 outbound AM & PM 7 outbound AM & PM

Trucks - Other large

2 trucks per day / PCE = 3.0 / 6 Trucks/day

N/A WB EB 1 inbound AM & PM
1 outbound AM & PM

trucks - other medium

4 Trucks/day / PCE = 2.0 / 8 pce/day = 1 pce/hr.

N/A WB EB 1 inbound AM & PM
1 outbound AM & PM

4) Total Operations - Peak Hour

	WB		EB	
	AM	PM	AM	PM
In	8	7	28	17
out	7	8	17	28

Mill Production Statement

From: Filas, Frank [mailto:f.filas@EnergyFuels.com]
Sent: Wednesday, January 16, 2008 1:39 PM
To: Brian Hart
Cc: Monok, Bob; Louis Bridges; Rogers, Zach
Subject: RE: Access Permit - Pinon Ridge

Brian – Let's assume the following as our base case.

Employees at the mill site

Three 8-hour shifts per day, 7 days a week.

88 employees

20 employees work 5 days a week straight time (14 are mill employees and 6 will be mine or general company employees)

68 employees will work shifts, 4 separate crews with one crew off at any one time (51 workers per day)

Based on my experience, about 80 percent of the rotating shifts and 60 percent of the straight shifts will car pool (average of 3 per car).

About 90 percent of the employees will come from the east (Nucla, Naturita) and 10 percent from the west (Bedrock, La Sal).

About 30% of the straight-shift employees will leave during the day and return at later time during a normal work day.

Truck haulage would probably break down as follows:

1,000 tpd, 24-ton haul trucks, trucks can be either a 14-ton end dump with 10-ton pup or 24-ton bottom or end dump
This equals 42 loads a day or 84 trips. 50% of the loads from the east and 50% from the west
Most haulage would occur during daylight hours.

Chemical and large material deliveries, yellow-cake shipments, etc.: 2 tankers or trailers per day (4 trips). 50% from the east and 50% from the west
Small deliveries (e.g., UPS, Fed Ex); 4 deliveries/pickups per day (8 trips) – all from the east
Most deliveries would occur during daylight hours.

Visitors

Salesman, job-seekers, regulators, contractors, and members of the general public will visit the site on a routine basis. Assume about 10 visits per day (20 trips) during normal work day with 90% from the east.

Construction

Some construction will occur in 2008 and 2009; however, the mill cannot be constructed until 2010 at the earliest. Mill construction will occur over a 9-month period and include the following maximum personnel:

Mill Construction: 50 employees working 6, 10-hour shifts per week (90% from the east)

Earthwork: 12 employees working 6, 10-hour shifts per week (90% from the east)
Liner Installation (after earthwork is complete) 15 employees working 6 10-hour shifts per week (90% from the east)

So, we are probably looking at nearly the same number of people during construction as during milling operations. Ore haulage will likely occur during mill construction, as we will need to stockpile ore in advance for the mill. However, ore haulage would probably be substantially less than 1,000 tpd. Let's say an average of 150 tpd or 12 trips per day. Deliveries of equipment and materials would be higher during construction and would include some large over-sized shipments. Construction deliveries would include concrete trucks, tractor trailers with materials, flat beds with heavy equipment, and an occasional oversize load of stationary mill equipment. For convenience, I would assume an average of about 30 trucks per day during construction (60 trips).

Summary

In other words, both the number of employees and truck trips per day will be slightly less during construction as during mill operations.

Truck traffic is mostly limited to daylight hours and 5-day work week.

Heaviest traffic volumes will occur during shift change.

Hope this helps.

Frank Filas

Frank Filas, P.E.
Environmental Manager
Energy Fuels Resources Corporation
44 Union Blvd., Suite 600
Lakewood, CO 80228
Direct: (303) 974-2146
Cell: (303) 241-3773
E-Mail: ffilas@energyfuels.com

TURNKEY CONSULTING, LLC

Intersection Turning Movement Count Summary

Project: Energy Fuels
Location: Naturita
EB/WB Road: SH-90
NB/SB Road: SH-141

Counted by: Keesha
Count Date: 10/19/2007
Peak Season Adjust: 1

Time	Eastbound (EB)				Westbound (WB)				Northbound (NB)				Southbound (SB)				Total
AM	Left	Through	Right	RTOR	Left	Through	Right	RTOR	Left	Through	Right	RTOR	Left	Through	Right	RTOR	Volume
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 - 7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 - 7:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 - 7:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 - 8:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 - 8:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 - 8:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 - 8:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 - 9:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals =	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Peak Hour:	7:30-8:30 AM

Peak Hour Volumes		
	Intersection	0
	EB:	0
	WB:	0
	NB:	0
	SB:	0

Peak Hour Factors		
	Intersection	
	EB:	#DIV/0!
	WB:	#DIV/0!
	NB:	#DIV/0!
	SB:	0.00

Time	Eastbound (EB)				Westbound (WB)				Northbound (NB)				Southbound (SB)				Total
PM	Left	Through	Right	RTOR	Left	Through	Right	RTOR	Left	Through	Right	RTOR	Left	Through	Right	RTOR	Volume
2:30 - 2:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 - 3:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 - 3:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 - 3:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 - 3:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 - 4:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 - 4:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 - 4:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 - 4:45	0	0	1	0	0	0	0	0	6	4	0	0	0	4	0	0	15
4:45 - 5:00	1	0	4	0	0	0	0	0	6	3	0	0	0	3	1	0	18
5:00 - 5:15	0	0	3	0	0	0	0	0	2	3	0	0	0	1	0	0	9
5:15 - 5:30	0	0	5	0	0	0	0	0	4	2	0	0	0	9	0	0	20
5:30 - 5:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 - 6:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 - 6:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 - 6:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 - 6:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 - 7:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals =	1	0	13	0	0	0	0	0	18	12	0	0	0	17	1	0	62

← PM Data

Intersection Peak Hour:	4:30-5:30 PM

Peak Hour Volumes		
	Intersection	62
	EB:	14
	WB:	0
	NB:	30
	SB:	18

Peak Hour Factors		
	Intersection	
	EB:	0.70
	WB:	
	NB:	0.75
	SB:	0.50

Appendix B

SEASONAL FACTOR ADJUSTMENT
MONTHLY CONTINUOUS TRAFFIC COUNTS
FOR HIGHWAY 160A, REFPONT 100.812, COUNT STATION 000217(SW OF SH 160 BUS ROUTE E JCT, BAYFIELD)

Year	Jan.	Feb	Mar	Apr.	May	Jun.	July	Aug	Sep	Oct.	Nov.	Dec.
1991	3668	4025	4108	4790	5668	6660	7618	7457	6191	5803	4460	4305
1992	4049	4165	4576	5228	6315	7139	7782	7689	6666	6015	4721	4137
1993	3743	4036	4765	5336	6177	7203	8344	7856	7147	6281	5244	5050
1994	4575	4540	5401	5515	6612	7602	8686	8244	7492	6489	5617	5375
1995	4692	5118	5578	5792	6875	8007	8960	8430	7706	7115	6078	5666
1996	5139	5297	5812	6281	7112	7848	8753	8428	7358	6870	5821	5669
1997	4750	5337	6000	6155	7345	8385	9589	9480	8385	7672	6093	5887
1998	5481	5458	5910	6439	7479	8331	9393	8865	8545	7557	6254	6291
1999	5733	6103	6721	6786	7427	9317	10146	9509	9029	8167	7096	6917
2000	6148	6461	6655	7424	8250	9550	10410	10148	9107	6781	7058	6832
2001	6020	6492	7130	7465	8436	8843	9470	9339	8436	8160		
2002			7146	7852	8582	9520	9555	9302	8852	8232	7297	7108
2003	6852	6619	7025	7654	8565	9168	9995	9525	8811	9020	7276	7271
2004	6658	6697	7728	8009	8862	9785	10371	9912	9490	8741	7871	7780
2005	6750	7229	7737	8140	8837	10010	10310	9948	9246	8527	7908	7815
2006	7280	7599	7660	8460	9153	10236	10492	10278	9913	9185	8452	7858
2007	7546	7838	8564	8780	9750	10471	11000	10523	10411			

CONVERT FROM OCTOBER TO JULY:	OCT.
	0.312769
	0.293766
	0.328451
	0.338573
	0.259311
	0.27409
	0.24987
	0.242954
	0.242317
	0.535172
	0.160539
	0.160714
	0.108093
AVERAGE LAST FIVE YEARS:	0.186478
	0.209101
	0.142297

PEAK SEASON FACTOR = **1.16134**

Oct → July

~~1/2 YEAR ADJUSTMENT FACTORS~~
TRAFFIC INFORMATION FOR HIGHWAY 160
FROM REFPOINT 80 TO 85

Route	Ref Point	End Ref Point	Start Point Description	Annual Average Daily Traffic	AADT Year	AADT Derivation	AADT Single Trucks	AADT Comb. Trucks	Percent Trucks	20 Year Factor	Design Hour (% of AADT)	Daily Vehicle Miles Travelled
160A*	79.866	81.186	ON SH 160 W/O WILDCAT CANYON RD, CR 141	10,100	2006	Factor	170	450	6.10%	1.4	9	13,160
160A**	81.186	82.279	ON SH 160 E/O WILDCAT CANYON RD, CR 141	14,600	2006	Actual	500	450	6.70%	1.51	9	16,644
160A	82.279	83.131	ON SH 160 W/O ROOSA AVE, DURANGO	20,200	2006	Actual	660	570	6.10%	1.57	9	16,483
160A	83.131	83.207	ON SH 160 W/O SH 550 N JCT, CAMINO DEL RIO, DURANGO	20,600	2006	Factor	730	490	5.90%	1.43	9	1,545
160A	83.207	84.155	ON SH 160 S/O SH 550 N JCT, CAMINO DEL RIO, DURANGO	34,800	2006	Actual	920	790	4.90%	1.[illegible]	9	24,290
160A	84.155	85.427	ON SH 160 S/O SH 3 W JCT, GATEWAY DR, DURANGO	44,400	2006	Actual	1280	810	4.70%	1.5	9	50,838

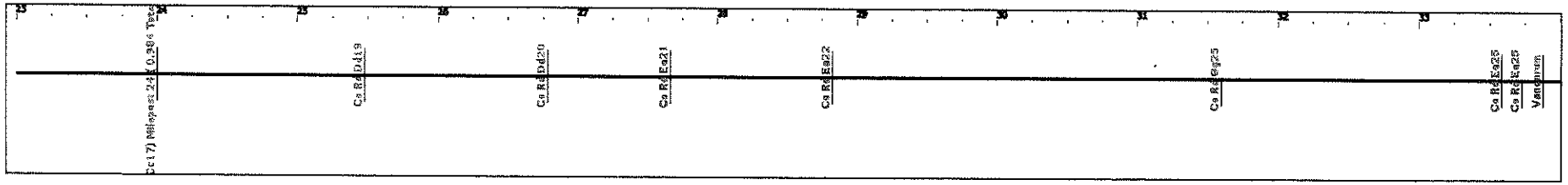
~~1-YEAR ADJUSTMENT FACTOR = 1.0246~~
~~2-YEAR ADJUSTMENT FACTOR = 1.049~~

~~*DHV = 5% OF AADT = 505~~
~~**DHV = 8% OF AADT = 1314~~

Highway	Beg_MP	End_MP	CO	CAT	PHYSICAL DESCRIPTION OF THE CATEGORY SEGMENT
085H	0.000	0.071	123	NRC	FROM JCT SH 34 GREELEY BUS LOOP TO JCT SH 263 IN GREELEY
085H	0.071	0.328	123	NRC	FROM JCT SH 263 TO 5TH ST IN GREELEY
085H	0.328	1.151	123	NRB	FROM 5TH ST TO CACHE LA POUDRE RIVER STRS C-18-DD NB AND C-18-G SB IN GREELEY
085H	1.151	1.804	123	NRA	FROM CACHE LA POUDRE RIVER STRS C-18-DD NB AND C-18-G SB TO SH 85 INTERCHANGE (GREELEY)
085H	1.804	1.990	123	NRA	FROM SH 85 INTERCHANGE (GREELEY) TO JCT SH 85, END SH 85H
086A	0.562	4.860	035	NRA	FROM ROCK ST IN CASTLE ROCK TO 6600 FEET WEST OF WALKER ROAD
086A	4.860	6.820	035	RA	FROM 6600 FEET WEST OF WALKER ROAD TO JCT SH 83 (FRANKTOWN)
086A	6.820	12.261	035	RA	FROM JCT SH 83 (FRANKTOWN) TO DOUGLAS/ELBERT CO LINE
086A	12.261	15.009	039	RA	FROM DOUGLAS/ELBERT CO LINE TO 1093 FEET WEST OF ELIZABETH ST IN ELIZABETH
086A	15.009	15.605	039	NRB	FROM 1093 FEET WEST OF ELIZABETH ST TO TABOR ST IN ELIZABETH
086A	15.605	15.894	039	NRC	FROM TABOR ST TO MAIN ST IN ELIZABETH
086A	15.894	16.267	039	NRB	FROM MAIN ST TO IN ELIZABETH TO COUNTY RD 17
086A	16.267	22.613	039	RA	FROM COUNTY RD 17 TO COUNTY RD 25-41 (TO ELBERT) IN KIOWA
086A	22.613	23.686	039	NRB	FROM COUNTY RD 25-41 (TO ELBERT) IN KIOWA TO COUNTY RD 134
086A	23.686	58.998	039	RB	FROM COUNTY RD 134 TO I-70 INTERCHANGE (KIOWA), END SH 86A
088A	0.000	1.090	031	NRB	FROM SH 40 INTERCHANGE (COLFAX AVE) TO JCT SH 6 INTERCHANGE (6TH AVE) IN DENVER
088A	1.090	1.978	031	NRB	FROM SH 6 INTERCHANGE (6TH AVE) TO JCT SH 26 (ALAMEDA AVE) IN DENVER
088A	1.978	5.692	031	NRB	FROM JCT SH 26 (ALAMEDA AVE) IN DENVER TO FLOYD AVE AT DENVER/ARAPAHOE CO LINE IN SHERIDAN
088A	5.692	6.012	005	NRB	FROM FLOYD AVE AT DENVER/ARAPAHOE CO LINE IN SHERIDAN TO SH 285 INTERCHANGE
088A	6.012	8.711	005	NRB	FROM SH 285 INTERCHANGE IN SHERIDAN TO JCT SH 85 (SANTA FE DR) IN LITTLETON
088A	8.711	10.675	005	NRB	FROM JCT SH 85 (S SANTA FE DR) IN LITTLETON TO 528 FEET EAST OF CLARKSON ST IN CHERRY HILLS VILLAGE
088A	10.675	11.560	005	NRA	FROM 528 FT E OF CLARKSON ST IN CHERRY HILLS VGE TO SH 177,UNIVERSITY BL, GREENWOOD VIL
088A	11.560	14.736	005	NRA	FROM JCT SH 177 (UNIVERSITY BL) TO I-25 INTERCHANGE (BELLEVIEW AV) IN GREENWOOD VIL END 88A
088B	17.001	20.496	005	NRA	FROM I-25 INTERCHANGE (ARAPAHOE RD) IN GREENWOOD VILLAGE TO JORDAN RD IN AURORA
088B	20.496	21.734	005	NRA	FROM JORDAN RD TO JCT SH 83 (PARKER RD) IN AURORA, END SH 88B
089A	0.000	5.976	009	RB	FROM JCT SH 116 (LYCAN) TO BACA/PROWERS CO LINE
089A	5.976	33.985	099	RB	FROM BACA/PROWERS CO LINE TO 522 FEET SOUTH OF ATSF RAILROAD CROSSING 003-201B
089A	33.985	34.340	099	NRB	FROM 522 FEET SOUTH OF ATSF RAILROAD CROSSING 003-201B TO JCT SH 50 (COLORADO ST), END SH 89A
090A	0.000	14.797	085	RB	FROM UTAH-COLORADO STATE LINE TO COUNTY RD Z10 (BEDROCK)
090A	14.797	14.885	085	NRA	FROM COUNTY RD Z10 (BEDROCK) TO COUNTY RD Y9
090A	14.885	33.874	085	RB	FROM COUNTY RD Y9 TO JCT SH 141 (VANCORUM), END SH 90A
090B	82.001	89.858	085	NRB	FROM CO RD 59 AND CO RD 90 TO JCT SH 50 AND JCT SH 550 (TOWNSEND AVE) IN MONTROSE, END SH 90B
091A	0.000	12.076	065	RA	FROM JCT SH 24 TO LAKE/SUMMIT CO LINE
091A	12.076	22.578	117	RA	FROM LAKE/SUMMIT CO LINE TO I-70 INTERCHANGE (COPPER MOUNTAIN/LEADVILLE), END SH 91A
092A	0.000	2.891	029	NRB	FROM JCT SH 50 TO IN DELTA TO 18.50 RD
092A	2.891	3.814	029	RA	FROM 18.50 RD TO JCT SH 65
092A	3.814	20.000	029	RA	FROM JCT SH 65 TO HOTCHKISS AVE IN HOTCHKISS
092A	20.000	20.723	029	NRB	FROM HOTCHKISS AVE TO JCT SH 133 IN HOTCHKISS
092A	20.723	21.010	029	NRB	FROM JCT SH 133 TO NORTH FORK GUNNISON RIVER STR I-06-A IN HOTCHKISS
092A	21.010	31.000	029	RA	FROM NORTH FORK GUNNISON RIVER STR I-06-A IN HOTCHKISS TO 1637 FEET EAST OF CO RD D.75 (MCMURRAY ST)
092A	31.000	31.837	029	NRA	FROM 1637 FEET EAST OF COUNTY ROAD D.75 (MCMURRAY ST) TO SMITH FORK CREEK STR J-06-A
092A	31.837	34.333	029	RA	FROM SMITH FORK CREEK STR J-06-A TO DELTA/MONTROSE CO LINE
092A	34.333	56.467	085	RA	FROM DELTA/MONTROSE CO LINE TO MONTROSE/GUNNISON CO LINE
092A	56.467	73.297	051	RA	FROM MONTROSE/GUNNISON CO LINE TO JCT OF SH-50, END SH 92A
093A	0.000	1.495	059	NRA	FROM JCT SH 58 AND SH 6 TO FORD ST IN GOLDEN
093A	1.495	7.000	059	EX	FROM FORD ST IN GOLDEN TO 264 FEET NORTH OF D&RGW RAILROAD SEPARATION OVERPASS STR E-16-R
093A	7.000	7.573	059	RA	FROM 264 FEER NORTH OF D&RGW RAILROAD SEPARATION OVERPASS STR E-16-R TO JCT SH 72
093A	7.573	7.681	059	RA	FROM JCT SH 72 TO 570 FEET NORTH OF JCT SH 72
093A	7.681	10.705	059	EX	FROM 570 FEET NORTH OF JCT SH 72 TO JEFFERSON/BOULDER CO LINE
093A	10.705	11.781	013	RA	FROM JEFFERSON/BOULDER CO LINE TO JCT SH 128

090A
From 23 To 34

◇ Ramps
Overpass
Underpass



CLASSIFICATION

Access Control: RB Rural Highway

GEOMETRICS

Through Lane Quantity: 2

JURISDICTION

County: Montrose

SAFETY

Speed Limit: 65

Truck Restriction: 0 0 No Truck Restrictions

TRAFFIC

[illegible]: [illegible]

[illegible]: [illegible]

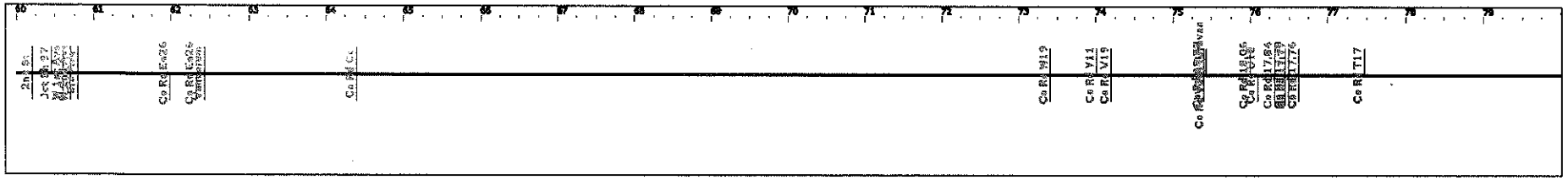
[illegible]: [illegible]

[illegible]: [illegible]

It may appear that information is missing from the straight line diagram. If so, reduce the number of miles/page (Step 3) and re-submit the request.

Highway	Beg_MP	End_MP	CO	CAT	PHYSICAL DESCRIPTION OF THE CATEGORY SEGMENT
138A	58.232	58.534	115	RB	FROM ASH ST IN JULESBURG TO SH 385 INTERCHANGE
138A	58.534	59.823	115	RB	FROM SH 385 INTERCHANGE TO COUNTY RD 36.3 AT COLORADO-NEBRASKA STATE LINE, END SH 138A
138Z	0.000	0.614	075	NRC	FROM JCT SH138 (END 1-WAY) BEGIN 1-WAY SB ON BROADWAY TO JCT SH 6 IN STERLING, END SH 138Z
139A	0.000	1.261	077	RB	FROM I-70 INTERCHANGE (LOMA) TO JCT SH 6 (LOMA)
139A	1.261	2.000	077	RB	FROM JCT 6 SH 6 (LOMA) TO 137 FEET NORTH OF N RD
139A	2.000	13.597	077	RA	FROM 137 FEET NORTH OF N RD TO MESA/GARFIELD CO LINE
139A	13.597	39.301	045	RA	FROM MESA/GARFIELD CO LINE TO GARFIELD/RIO BLANCO CO LINE
139A	39.301	72.065	103	RA	FROM GARFIELD/RIO BLANCO CO LINE TO JCT SH 64, END SH 139A
140A	0.000	6.815	067	RA	FROM NEW MEXICO-COLORADO STATE LINE TO COUNTY RD 103E (REDMESA)
140A	6.815	7.000	067	NRB	FROM COUNTY RD 103E (REDMESA) TO 591 FEET SOUTH OF COUNTY RD 103
140A	7.000	22.000	067	RA	FROM 591 FEET SOUTH OF COUNTY RD 103 TO 1853 FEET NORTH OF COUNTY RD 125
140A	22.000	22.830	067	NRA	FROM 1853 FEET NORTH OF COUNTY RD 125 TO A ROAD NE AND SW
140A	22.830	23.435	067	NRB	FROM A ROAD NE AND SW TO JCT SH 160, END SH 140A
141A	0.000	7.349	033	RB	FROM JCT SH 666 TO COUNTY RD F4 AT DOLORES/SAN MIGUEL CO LINE
141A	7.349	51.133	113	RB	FROM COUNTY RD F4 AT DOLORES/SAN MIGUEL CO LINE TO SAN MIGUEL/MONTROSE CO LINE
141A	51.133	55.709	085	RB	FROM SAN MIGUEL/MONTROSE CO LINE TO JCT SH 145
141A	55.709	60.054	085	RB	FROM JCT SH 145 TO 839 FEET WEST OF 2ND ST IN NATURITA
141A	60.054	60.213	085	NRB	FROM 839 FEET WEST OF 2ND ST TO 2ND ST IN NATURITA
141A	60.213	60.452	085	NRC	FROM 2ND ST TO JCT SH 97 IN NATURITA
141A	60.452	60.960	085	NRC	FROM JCT SH 97 TO 840 FEET EAST OF 3RD AVE IN NATURITA
141A	60.960	61.000	085	NRB	FROM 840 FEET EAST OF 3RD AVE TO 1051 FEET EAST OF 3RD AVE IN NATURITA
141A	61.000	62.436	085	RB	FROM 1051 FEET EAST OF 3RD AVE TO JCT SH 90 (VANCORUM)
141A	62.436	95.800	085	RB	FROM JCT SH 90 (VANCORUM) TO MONTROSE/MESA CO LINE
141A	95.800	153.999	077	RB	FROM MONTROSE/MESA CO LINE TO JCT SH 50, END SH 141A
141B	156.746	159.902	077	RB	FROM JCT SH 50 TO 2460 FEET NORTH OF COLORADO RIVER STR H-03-BL
141B	159.902	161.999	077	NRA	FROM 2460 FEET NORTH OF COLORADO RIVER STR H-03-BL TO JCT I-70 GRAND JUNCTION BUS LOOP, END SH 141B
142A	0.000	0.300	021	NRB	FROM JCT SH 285 TO 4TH AVE IN ROMEO
142A	0.300	2.266	021	RB	FROM 4TH AVE IN ROMEO TO COUNTY RD 31 IN MANASSA
142A	2.266	3.276	021	NRB	FROM COUNTY RD 31 TO 1ST ST IN MANASSA
142A	3.276	14.205	021	RB	FROM 1ST ST IN MANASSA TO CONEJOS/COSTILLA CO LINE
142A	14.205	33.808	023	RB	FROM CONEJOS/COSTILLA CO LINE TO RITO SECO CREEK STR P-15-D IN SAN LUIS
142A	33.808	33.840	023	NRB	FROM RITO SECO CREEK STR P-15-D TO JCT SH 159 (MAIN ST) IN SAN LUIS, END SH 142A
144A	0.000	2.821	087	RB	FROM I-76 SEPARATION TO JCT SH 34
144A	2.821	10.493	087	RB	FROM JCT SH 34 TO JCT SH 39 (GOODRICH)
144A	10.493	12.000	087	NRA	FROM JCT SH 39 (GOODRICH) TO 2240 FEET NORTH OF COUNTY RD 5
144A	12.000	27.178	087	RB	FROM 2240 FEET NORTH OF COUNTY RD 5 TO ELM ST AND 2ND ST
144A	27.178	27.419	087	NRA	FROM ELM ST AND 2ND ST TO I-76 INTERCHANGE
144A	27.419	28.299	087	NRA	FROM I-76 INTERCHANGE TO WEST ST IN FORT MORGAN
144A	28.299	28.796	087	NRB	FROM WEST ST TO JCT SH 52 (MAIN ST) IN FORT MORGAN, END SH 144A
145A	0.000	2.000	083	NRB	FROM JCT SH 160 (MAIN ST) IN CORTEZ TO 1352 FEET SOUTH OF COUNTY RD M
145A	2.000	3.000	083	NRA	FROM 1352 FEET SOUTH OF COUNTY RD M TO 1420 FEET SOUTH OF COUNTY RD N
145A	3.000	7.864	083	RA	FROM 1420 FEET SOUTH OF COUNTY RD N TO JCT SH 184
145A	7.864	8.729	083	RA	FROM JCT SH 184 TO JCT SH 184
145A	8.729	9.380	083	RA	FROM JCT SH 184 TO 850 FEET NORTH OF DOLORES RIVER STR O-02-E
145A	9.380	11.111	083	NRB	FROM 850 FEET NORTH OF DOLORES RIVER STR O-02-E TO FOURTEENTH ST IN DOLORES
145A	11.111	42.922	083	RA	FROM FOURTEENTH ST IN DOLORES TO MONTEZUMA/DOLORES CO LINE
145A	42.922	46.000	033	RA	FROM MONTEZUMA/DOLORES CO LINE TO 5010 FEET WEST OF KING ST IN RICO
145A	46.000	46.243	033	NRA	FROM 5010 FEET WEST OF KING ST TO 3727 FEET WEST OF KING ST IN RICO
145A	46.243	47.507	033	NRB	FROM 3727 FEET WEST OF KING ST IN RICO TO 69 FEET WEST OF DOLORES RIVER STR N-04-C
145A	47.507	47.520	033	NRA	FROM 69 FEET WEST OF DOLORES RIVER STR N-04-C TO DOLORES RIVER STR N-04-C

141A
From 60 To 80



◇ Ramps
Overpass
Underpass

CLASSIFICATION

Access Control	NRC	RB Rural Highway

GEOMETRICS

Through Lane Quantity	2

JURISDICTION

County	Montrose

SAFETY

Speed Limit	25	45	55	45	40	50	35

TRAFFIC

AADT	[illegible]	[illegible]	[illegible]	[illegible]			
AADT Year			[illegible]				
Peak Truck Percentage	[illegible]	[illegible]	[illegible]	[illegible]			
Year 20 Factor	[illegible]	[illegible]	[illegible]				
DHV			[illegible]				

It may appear that information is missing from the straight line diagram. If so, reduce the number of miles/page (Step 3) and re-submit the request.

Operation Analysis

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Hudson*	Intersection	*Site Access & SH-90*
Agency/Co.	*TurnKey Consulting, LLC*	Jurisdiction	*CDOT Region 5*
Date Performed	*3/5/2008*	Analysis Year	*2030*
Analysis Time Period	*PM Peak - with project traffic*		

Project Description *Energy Fuels*

East/West Street: *SH-90*	North/South Street: *Site Access*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*41*	*7*	*17*	*41*	
Peak-Hour Factor, PHF	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*
Hourly Flow Rate, HFR (veh/h)	*0*	*46*	*7*	*19*	*46*	*0*
Percent Heavy Vehicles	*20*	--	--	*80*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*1*	*0*	*1*	*1*	*0*
Configuration			*TR*	*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*8*		*28*			
Peak-Hour Factor, PHF	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*	*0.88*
Hourly Flow Rate, HFR (veh/h)	*9*	*0*	*31*	*0*	*0*	*0*
Percent Heavy Vehicles	*80*	*0*	*80*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration		*LR*				

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*		*LR*				
v (veh/h)		*19*		*40*				
C (m) (veh/h)		*1172*		*798*				
v/c		*0.02*		*0.05*				
95% queue length		*0.05*		*0.16*				
Control Delay (s/veh)		*8.1*		*9.7*				
LOS		*A*		*A*				
Approach Delay (s/veh)	--	--	*9.7*					
Approach LOS	--	--	*A*					

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TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*Hudson*	Intersection	*SH-90 & SH-141*
Agency/Co.	*TurnKey Consulting, LLC*	Jurisdiction	*CDOT Region 5*
Date Performed	*3/5/2008*	Analysis Year	*2030*
Analysis Time Period	*PM Peak - with project traffic*		

Project Description *Energy Fuels*

East/West Street: *SH-90*	North/South Street: *SH-141*
Intersection Orientation: *North-South*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Northbound			Southbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	58	33			50	11
Peak-Hour Factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Hourly Flow Rate, HFR (veh/h)	65	37	0	0	56	12
Percent Heavy Vehicles	20	--	--	0	--	--
Median Type	Undivided					
RT Channelized			0			0
Lanes	0	1	0	0	1	0
Configuration	LT					TR
Upstream Signal		0			0	

Minor Street	Eastbound			Westbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	16		50			
Peak-Hour Factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88
Hourly Flow Rate, HFR (veh/h)	18	0	56	0	0	0
Percent Heavy Vehicles	20	0	20	0	0	0
Percent Grade (%)	-5			0		
Flared Approach		N			N	
Storage		0			0	
RT Channelized			0			0
Lanes	0	0	0	0	0	0
Configuration		LR				

Delay, Queue Length, and Level of Service

Approach	Northbound	Southbound	Westbound			Eastbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	LT						LR	
v (veh/h)	65						74	
C (m) (veh/h)	1426						873	
v/c	0.05						0.08	
95% queue length	0.14						0.28	
Control Delay (s/veh)	7.6						9.5	
LOS	A						A	
Approach Delay (s/veh)	--	--	9.5					
Approach LOS	--	--	A					

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DOE/EA–1535

Uranium Leasing Program Final Programmatic Environmental Assessment

July 2007

U.S. Department of Energy

Office of Legacy Management

Work Performed Under DOE Contract No. DE–AC01–02GJ79491
for the U.S. Department of Energy Office of Legacy Management.
Approved for public release; distribution is unlimited.

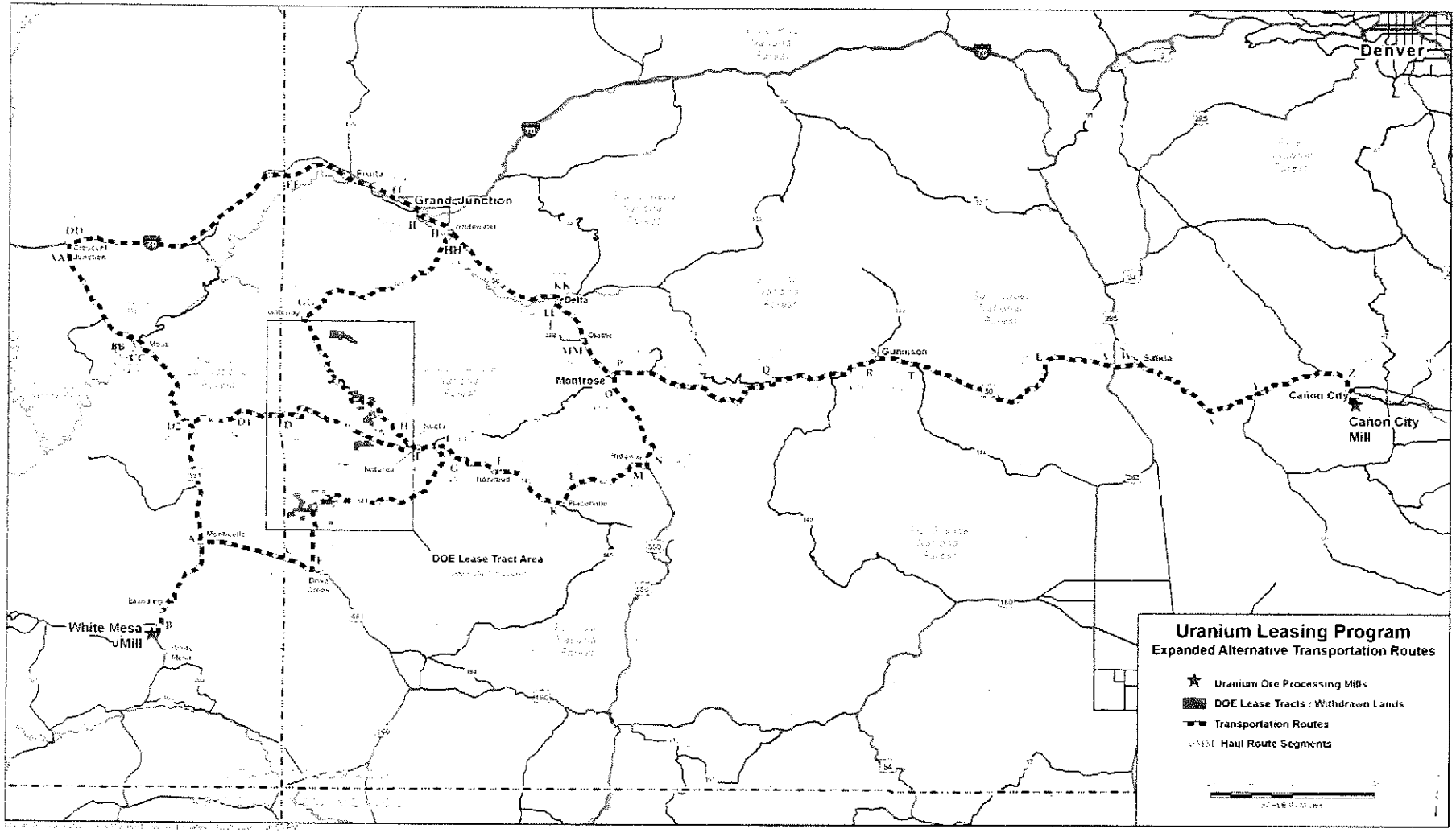

Figure 3–2. Expanded Alternative Transportation Haul Routes

Table 5–1. Transportation Statistics for Haul Route Segments—Expanded Program Alternative, Worst-Case Scenario

Figure 3–2 Map Symbol	Location Description	2005 AADT[a]	No. Trucks	Existing % Trucks[b]	Increased Number of Trucks	% Increase Total Traffic[b]	% Increase Trucks[b]	DHV %[c]	Current V/C Ratio[d]	Projected V/C Ratio
AA	Jct SR 313-Jct FAI-70 Crescent Jct	2,850	998	35	33	1	3	14 R	0.32	0.32
BB	US-191 & entrance to Arches NP	3,375	641	19	33	1	5	14R	0.19	0.19
CC	US-191 and central Moab	9,455	2,931	31	33	<1	1	10 U	0.31	0.31
D2	Jct 191 and SR 46 La Sal Jct	3,535	1,555	44	204	6	13	11 R	0.28	0.29
A	US-191 and SR 491 in Monticello	3,020	997	33	300	10	30	11 U	0.22	0.25
B	US-191 and SR-95, 4 mi south of Blanding	2,830	538	19	300	11	56	11 R	0.11	0.12
DD	On I-70, just east of US-191	6,680	3,540	53	33	<1	1	13 R	0.14	0.14
C	SH-491 at Colo/Utah state line	2,100	630	30	300	14	48	11 R	0.14	0.16
D	SH-90 west of CR-575 to Paradox	220	40	18	204	93	510	10 R	0.02	0.04
E	SH-90 0.25 mi south of SH-141, Vancorum	400	50	13	126	32	252	10 R	0.04	0.05
D1	SR-46 Jct. with SR-191 at La Sal Jct	545	71	13	204	37	287	11 R	0.06	0.08
EE	I-70 west of Mack interchange	6,800	1,770	26	33	<1	2	12 R	0.15	0.15
FF	I-70 SW of SH-6 & I-70, west of GJ	19,400	3,450	18	33	<1	1	9 U	0.25	0.25
F	SH-141 0.25 mi north of SH-491	570	70	12	300	53	429	9 R	0.02	0.04
G	SH-141 0.8 mi south of SH-145	430	90	21	204	47	227	9 R	0.02	0.03
H	SH-141 0.25 mi west of SH-90, Vancorum	360	40	11	79	22	198	9 R	0.03	0.04
GG	SH-141 NE of NE jct. CR SX.90, Gateway	700	100	14	33	5	33	9 R	0.08	0.08
HH	SH-141 0.3 mi west of US 50, Whitewater	1,400	390	28	33	2	8	9 R	0.07	0.07
I	SH-145 0.25 mi east of SH-141	1,100	90	8	300	27	333	9 R	0.05	0.07
J	SH-145 east of Market St., Norwood	3,100	210	7	300	10	143	9 R	0.30	0.33
K	SH-145 0.25 mi NW of SH 62, Placerville	1,900	300	16	300	16	100	11 R	0.24	0.28

Table 5–3. Transportation Statistics for Haul Route Segments—Expanded Program Alternative, Realistic Evaluation

Figure 3–2 Map Symbol	Location Description	2005 AADT[a]	No. Trucks	Existing % Trucks[b]	Increased Number of Trucks	% Increase Total Traffic[b]	% Increase Trucks[b]	DHV %[c]	Current V/C Ratio[d]	Projected V/C Ratio
AA	Jct SR-313 Jct FA I-70 Crescent Jct	2,850	998	35	0	0	0	14 R	0.32	0.32
BB	US-191 & entrance to Arches NP	3,375	641	19	0	0	0	14 R	0.19	0.19
CC	US-191 and Central Moab	9,455	2,931	31	0	0	0	10 U	0.31	0.31
D2	Jct 191 and SR-46 La Sal Jct	3,535	1,555	44	76	2	5	11 R	0.28	0.28
A	US-191 and SR-491 in Monticello	3,020	997	33	90	3	9	11 U	0.22	0.23
B	US-191 and SR-95, 4 mi south of Blanding	2,830	538	19	90	3	17	11 R	0.11	0.11
DD	On I-70, just east of US 191	6,680	3,540	53	0	0	0	13 R	0.14	0.14
C	SH-491 at Colo/Utah state line	2,100	630	30	86	4	14	11 R	0.14	0.14
D	SH-90 west of CR-575 to Paradox	220	40	18	76	35	190	10 R	0.02	0.03
E	SH-90 0.25 mi south of SH-141, Vancorum	400	50	13	70	18	140	10 R	0.04	0.04
D1	UT SR-46 Jct with US-191 at La Sal Jct	545	71	13	76	14	107	11 R	0.06	0.07
EE	I-70 west of Mack interchange	6,800	1,770	26	0	0	0	12 R	0.15	0.15
FF	I-70 SW of SH-6 & I-70, west of GJ	19,400	3,450	18	0	0	0	9 U	0.25	0.25
F	SH-141 0.25 mi north of SH-491	570	70	12	86	15	123	9 R	0.02	0.03
G	SH-141 0.8 mi south of SH-145	430	90	21	76	18	84	9 R	0.02	0.03
H	SH-141 0.25 mi west of SH-90, Vancorum	360	40	11	46	13	115	9 R	0.03	0.03
GG	SH-141 NE of NE jct. CR SX.90, Gateway	700	100	14	0	0	0	9 R	0.08	0.08
HH	SH-141 0.3 mi west of US-50, Whitewater	1,400	390	28	0	0	0	9 R	0.07	0.07
I	SH-145 0.25 mi east of SH-141	1,100	90	8	32	3	36	9 R	0.05	0.05
J	SH-145 east of Market St., Norwood	3,100	210	7	32	1	15	9 R	0.30	0.31
K	SH-145 0.25 mi NW of SH-62, Placerville	1,900	300	16	32	2	11	11 R	0.24	0.25

Table 5–5. Transportation Statistics for Haul Route Segments—Existing Program Alternative, Worst-Case Scenario

Figure 3–3 Map Symbol	Location Description	2005 AADT[a]	No. of Trucks	Existing % Trucks[b]	Increased Number of Trucks	% Increase Total Traffic[b]	% Increase Trucks[b]	DHV %[c]	Current V/C Ratio[d]	Projected V/C Ratio
A	US-191 and SR-491 in Monticello	3,020	997	33	100	3	10	11 U	0.22	0.23
B	US-191 and SR-95, 4 mi south of Blanding	2,830	538	19	100	4	19	11 R	0.11	0.11
C	SH-491 at Colo/Utah state line	2,100	630	30	100	5	16	11 R	0.14	0.14
D	SH-90 west of CR-575 to Paradox	220	40	18	54	25	135	10 R	0.02	0.02
E	SH-90 0.25 mi south of SH-141, Vancorum	400	50	13	38	10	76	10 R	0.04	0.04
F	SH-141 0.25 mi north of SH-491	570	70	12	100	18	143	9 R	0.02	0.03
G	SH-141 0.8 mi south of SH-145	430	90	21	54	13	60	9 R	0.02	0.03
H	SH-141 0.25 mi west of SH-90, Vancorum	360	40	11	30	8	75	9 R	0.03	0.03
I	SH-145 0.25 mi east of SH-141	1,100	90	8	100	9	111	9 R	0.05	0.06
J	SH-145 east of Market St., Norwood	3,100	210	7	100	3	48	9 R	0.30	0.31
K	SH-145 0.25 mi NW of SH-62, Placerville	1,900	300	16	100	5	33	11 R	0.24	0.26
L	SH-62 0.25 mi NE of SH-145, Placerville	3,800	370	10	100	3	27	12 R	0.51	0.52
M	SH-62 west of US-550, Ridgway	7,700	460	6	100	1	22	12 R	0.66	0.67
N	US-550 0.6 mi north of SH-62, Ridgway	6,400	460	7	100	2	22	12 R	0.51	0.51
O	US-550 south of US-50 & SH-90, Montrose	24,000	1,200	5	100	<1	8	9 U	0.66	0.67

Table 5–7. Transportation Statistics for Haul Route Segments—Existing Program Alternative, Realistic Evaluation

Figure 3–3 Map Symbol	Location Description	2005 AADT[a]	No. of Trucks	Existing % Trucks[b]	Increased Number of Trucks	% Increase Total Traffic[b]	% Increase Trucks[b]	DHV %[c]	Current V/C Ratio[d]	Projected V/C Ratio
A	US-191 and SR-491 in Monticello	3,020	997	33	50	2	5	11 U	0.22	0.23
B	US-191 and SR-95, 4 mi south of Blanding	2,830	538	19	50	2	9	11 R	0.11	0.11
C	SH-491 at Colo/Utah state line	2,100	630	30	46	2	7	11 R	0.14	0.14
D	SH-90 west of CR-575 to Paradox	220	40	18	40	18	100	10 R	0.02	0.02
E	SH-90 0.25 mi south of SH-141, Vancorum	400	50	13	62	16	124	10 R	0.04	0.04
F	SH-141 0.25 mi north of SH-491	570	70	12	46	8	66	9 R	0.02	0.03
G	SH-141 0.8 mi south of SH-145	430	90	21	40	9	44	9 R	0.02	0.02
H	SH-141 0.25 mi west of SH-90, Vancorum	360	40	11	10	3	25	9 R	0.03	0.03
I	SH-145 0.25 mi east of SH-141	1,100	90	8	32	3	36	9 R	0.05	0.05
J	SH-145 east of Market St., Norwood	3,100	210	7	32	1	15	9 R	0.30	0.31
K	SH-145 0.25 mi NW of SH-62, Placerville	1,900	300	16	32	2	11	11 R	0.24	0.25
L	SH-62 0.25 mi NE of SH-145, Placerville	3,800	370	10	32	1	9	12 R	0.51	0.51
M	SH-62 west of US-550, Ridgway	7,700	460	6	32	<1	7	12 R	0.66	0.66
N	US-550 0.6 mi north of SH-62, Ridgway	6,400	460	7	32	1	7	12 R	0.51	0.51
O	US-550 south of US-50 & SH-90, Montrose	24,000	1,200	5	32	<1	3	9 R	0.66	0.67