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Section I: Submittal Information (Required)

Subcontractor	Item Number and Title	Submittal Date	SRCT #
Shannon & Wilson	Geotechnical Report, Task 4.12: Preliminary Geotechnical Analysis Report (Submittal No. 8.8), Rev. 1	14 March 2006	06-00101

Data file information

Filename	Rev	File Size	Description	Application & Version / Add-in or Extension & Version
Geotechnical Report.pdf	1	292,276 KB	Portable Document Format file of the Geotechnical Report, This file contains the Text, Appendices, Tables, Figures, Plates and Report Covers	Adobe Acrobat V 7.0
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Submittal Description

This submittal contains Rev. 1 of the Geotechnical Report in PDF format. The report summarizes the results of preliminary geotechnical engineering evaluations to support conceptual design of the proposed rail line for the Yucca Mountain Project. It incorporates review comments (dated January 30, 2006, updated February 7, 2006) from BSC concerning the Draft Geotechnical Engineering Report dated January 10, 2006.

This report provides discussions of the geologic literature and data review and reconnaissance, the regional geology and tectonic setting, geologic units, soils, geologic hazards, and preliminary engineering and construction considerations.

Section II: Metadata

☐ **GIS Metadata** All GIS data is preferred in ArcGIS9.1 UTM, NAD1983, Zone11, Feet.	**Projection:**
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None included.

Section IV - Data Screening (Completed by BSC personnel)

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Geotechnical Report
Volume 2 of 2

Task 4.12: Preliminary Geotechnical Analysis Report (Submittal No. 8.8)

REV. 1 **14 March 2006**

Prepared by:

SHANNON & WILSON, INC.
GEOTECHNICAL AND ENVIRONMENTAL CONSULTANTS

In Association With:

JACOBS

Ninyo & Moore

Prepared for:

BECHTEL SAIC COMPANY, LLC

Caliente Rail Corridor
Yucca Mountain Project, Nevada
Geotechnical Analysis

Subcontract NN-HC4-00197

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TABLE 2
GENERALIZED STRATIGRAPHIC COLUMNS

Geologic Age			**Southwest Nevada Volcanic Field** (Yucca Flat, Rock Valley, Jackass Flats, Yucca Mountain, Crater Flat, Oasis Valley, Pahute Mesa, and Sarcobatus Flat)	**Goldfield and Stonewall Mountain Calderas** (Goldfield Hills, Mount Jackson Ridge, Stonewall Flat, Lida Valley, and Stonewall Mountain)	**Central Nevada Caldera** (Ralston Valley, Cactus Flat, Stone Cabin Valley, Kawich Range, Reveille Valley, Reveille Range, Railroad Valley, and Quinn Canyon Range)	**Indian Peak and Caliente caldera complexes** (Golden Gate, Seaman, North Pahroc, Cedar, and Chief Ranges, Clover Mountains, White River, Dry Lake, and Meadow Valleys)
Era	**Period**	**Epoch**	**Geologic Units**			
CENOZOIC	**Quaternary**	Holocene	Stream channel and floodplain alluvium; eolian, playa, and landslide deposits	Stream channel, floodplain, and fan alluvium, colluvium, and pediment deposits	Stream channel, floodplain, and fan alluvium; eolian, pediment, terrace, and landslide deposits; colluvium	Stream channel, floodplain, and valley floor alluvium; playa, eolian, and landslide deposits
		Pleistocene	Fan alluvium, basin-fill deposits, lacustrine beach deposits, and colluvium			Fan alluvium, terrace, marsh, spring, and lacustrine beach deposits, and colluvium
	Tertiary	Pliocene	Basalt flows and cones of Crater Flat, Oasis Valley, Thirsty Canyon, and Buckboard Mesa	Conglomerate and sandstone	Basalt flows of Reveille Valley and Reveille Range	
			Basin-fill and caldera-moat-filling sediments		Andesite flows near Clifford Mine and Black Spring	Conglomerate and sandstone
				Pozo Formation	Tuffaceous lacustrine deposits near Clifford Mine	Panaca Formation and White River Narrows unit
		Miocene	Volcanics of Stonewall Mt	Volcanics of Stonewall Mt		
				Malpais Basalt		
			Rhyolite of Sarcobatus Flat			
			Tuff of Gold Flat			
			Andesite of Sarcobatus Flat			
			Thirsty Canyon Group			
			Rhyolite of Colson Pond			
			Basalt of Black Mountain			
			Older Tertiary basalt	Basalt of Blackcap Mountain		
			Volcanics of Fortymile Canyon		Rhyolite of Cactus Peak	
			Timber Mountain Group	Timber Mountain Group		Steamboat Mountain Fm
			Paintbrush Group			Ox Valley Tuff
			Calico Hills Formation			
			Wahmonie Formation			
			Crater Flat Group			
			Belted Range Group			
			Tram Ridge Group			
			Rocks of Pavits Spring	Siebert Tuff and Mira Basalt		Sedimentary rocks of Newman Canyon
			Volcanics of Quartz Mountain			Tuff of Etna
			Tuff of Yucca Flat			McCullough Formation
			Redrock Valley Tuff			Volcanic rocks of Klondike Sp.
			Panuga Formation			
		Miocene	Titus Canyon Formation		Rhyolite of O'Briens Knob	
				Fraction Tuff	Fraction Tuff	Tuff of Tepee Rocks
					Rhyolite, rhyodacite, and dacite lava flows and intrusions	Hiko Tuff
						Racer Canyon Tuff
						Porphyry of Meadow V. Wash
				Rhyolite of Wildhorse Spring		Dacite to basalt lava flows, flow breccia, and mudflow breccia
				Chispa Andesite		
				Tuff of Chispa Hills		
				Volcaniclastic rocks		
				Dacite at Goldfield		
				Milltown Andesite		Lava flows of Indian Cove
						Harmony Hills Tuff
				Porphyritic rhyodacite		Dacite to basalt lava flows
					Pahranagat Formation	Pahranagat Formation
						Condor Canyon Formation
						Volcanic & sedimentary rocks
						Leach Canyon Formation
						Dacite to basalt lava flows
						Cobalt Canyon stock
					Tuff of Goblin Knobs	Hole-in-the-wall and Hamlight Canyon Tuff Mbrs of Isom Fm
					Shingle Pass Tuff	Shingle Pass Tuff
					Tuff of Antelope Springs	Baldhills Tuff Mbr of Isom Fm
					Monotony Tuff	Monotony Tuff
						Limestone and tuff
						Petroglyph Cliff Tuff and Andesite of Hamilton Spring
					Dacite of Reveille Valley	Lund Formation and Formation of Black Rock Spring
		Oligocene		Sandstorm Formation	Andesite of Reveille Range and southern Reveille Valley	Andesite lava flows, mudflow breccia, tuff, and sedimentary rocks
						Wah Wah Springs Formation
						Lacustrine and fluvial sedimentary rocks, bedded tuff, and andesite lava flow
						Cottonwood Wash Tuff
						Lacustrine and fluvial sedimentary rocks and bedded tuff
					Windous Butte Formation	Windous Butte Formation
				Kendall Tuff	Sandstone and conglomerate	Lacustrine and fluvial sedimentary rocks and bedded tuff
				Vindicator Rhyolite		Andesite of Wheatgrass Spring and ash-flow tuff
						Lacustrine and fluvial sedimentary rocks
		Eocene			Calcareous siltstone and mudstone	Sheep Pass Formation
		Paleocene				

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Era	**Period**	**Epoch**	**Geologic Units**			
MESOZOIC	**Cretaceous**		Granitic rocks	Quartz monzonite and granodiorite		
	Jurassic					
	Triassic					
PALEOZOIC	**Permian**		Tippipah Limestone		Conglomerate, sandstone, argillite, chert, and limestone	Bird Spring Formation and Ely Limestone
	Pennsylvanian					
	Mississippian		Scotty Wash Quartzite		Diamond Peak Formation	Scotty Wash Quartzite
			Chainman Shale		Chainman Shale	Chainman Shale
					Joana Limestone	Joana Limestone
			Eleana Formation		Pilot Shale and Eleana Formation	Pilot Shale
	Devonian		Guilmette Formation		West Range Limestone	West Range Limestone
					Guilmette Formation	Guilmette Formation
			Simonson Dolomite		Simonson Dolomite	Simonson Dolomite
			Sevy Dolomite		Sevy Dolomite	Sevy Dolomite
	Silurian		Laketown Dolomite		Laketown Dolomite	Laketown Dolomite
	Ordovician		Ely Springs Dolomite	Palmetto Formation	Ely Springs Dolomite	Ely Springs Dolomite
			Eureka Quartzite		Eureka Quartzite	Eureka Quartzite
			Pogonip Group		Pogonip Group	Pogonip Group
						House Limestone
	Cambrian		Nopah Formation	Emigrant Formation	Swarbrick Formation	
						Windfall Formation
					Dunderberg Shale	Dunderberg Shale
			Bonanza King Formation		Not exposed	Highland Peak Formation
			Carrara Formation			Chisholm Shale
				Mule Spring Limestone		Lyndon Limestone
				Harkless Formation		Pioche Shale
			Zabriskie Quartzite	Poleta Formation		Prospect Mountain Quartzite
			Wood Canyon Formation	Campito Formation		Wood Canyon Formation
PROTER-OZOIC	**Late**			Deep Spring Formation		
			Stirling Quartzite	Reed Dolomite		Stirling Quartzite
			Johnnie Formation	Wyman Formation		Not exposed
Information Sources			Carr et al, 1996; Warren et al, 1998; Fridrich et al, 1999; Slate et al, 1999; Snow and Lux, 1999; Potter et al, 2002	Albers and Stewart, 1972; Cornwall, 1972; Ashley, 1975; Workman et al, 2002a	Ekren et al, 1971, 1973b; Gardner et al, 1980; Kleinhampl and Ziony, 1985; Whitebread and John, 1992; Best et al, 1993; Martin and Naumann, 1995; Scott et al, 1995a	Sleeper, 1989; Taylor, 1990; Rowley and Shroba, 1991; Best et al, 1992, 1993; duBray and Hurtubise, 1994; Rowley et al, 1994, 1995; Scott et al, 1994, 1995a, 1995b; Swadley and Simonds, 1994a

TABLE 3
DESCRIPTION OF GEOLOGIC UNITS

Combined Unit	Symbol	Included Stratigraphic Units	Age	Lithology	Engineering Description
Quaternary eolian dune, sheet, and ramp deposits	Qe	Not applicable	Holocene to early Pleistocene	Light-brown, brown, pale-yellowish-brown, reddish-brown, and light-gray, fine to medium-grained sand, silty sand, and sandy silt, locally with gravel and cobbles intermixed or as lag deposits.	Generally loose to medium-dense, SM, SP, and ML; forms low mounds with gravel pavement, sand sheets, dune fields, and ramp deposits.
Quaternary stream channel and floodplain alluvium	Qc	Not applicable	Holocene and latest Pleistocene(?)	Varies according to geologic and geomorphic settings. Channels typically contain unconsolidated, silty sandy gravel, and silty, gravelly sand, with cobbles, and small to large boulders. Deposits of desiccated silt, sandy silt, and silty sand between channels are common. Floodplains in mountainous terrain (*e.g.*, those of the Amargosa River, Clover, Cottonwood, and Cherry Creeks, Big Wash, and Cow Canyon) contain interbedded, reddish-brown, brown, and light-brown, variably gravelly, variably silty, fine- to coarse-grained sand, and variably silty, sandy, fine to coarse gravel. Floodplains in basins containing lakebeds (*e.g.*, those of White River and Meadow Valley Wash) contain reddish-brown, brown, light-brown, tan, and light-gray clay, clayey silt, clayey sand, and fine-grained sand.	Generally loose to medium dense, interbedded GP and SP in channels and ML and SM between channels. Floodplains in mountainous terrain contain loose to dense, interbedded GP and SP with subordinate SM. Floodplains in basins with lakebeds contain hard to stiff CH to ML and dense to loose SC to SP.
Playa and lake sediments	Qp	Not applicable	Holocene and latest Pleistocene	Tan, light-brown, brown, and light-gray to white mixtures of silt, clay, and fine-grained sand, desiccated at land surface, and covered with patches of loose, fine gravel or wind-blown sand.	Stiff to hard ML, CL, and CH and dense SM and SC.
Young Quaternary fine-grained alluvium	Qayf	Not applicable	Holocene and latest Pleistocene(?)	Tan, light-brown, yellowish- to reddish-brown, brown, and grayish-white mixtures of silt, clay, and fine-grained sand, locally cemented with calcium carbonate; deposits turn to grayish- to dark-brown muck when wet, but they typically are dry, tan, and desiccated at land surface; deposits occur in small to large unvegetated areas sparsely covered with patches of loose, fine gravel or beneath small mounds of eolian, fine to medium-grained sand stabilized by shrubs or grass.	Stiff to hard ML, CL, and CH and dense SM and SC.
Young Quaternary fan, valley floor, and tributary alluvium	Qay	Upper and middle fan alluvium	Holocene and late Pleistocene	Well-bedded, gently sloping, reddish-brown, brown, and light-brown, sandy gravel, and silty sandy gravel, with cobbles and boulders to 3-ft diameter; subordinate gravelly sand, gravelly silty sand, and fine-grained sand; local scour and fill and cross-bedding.	Loose to very dense GP, GM, SP, and SM.
		Lower and distal fan alluvium		Light-brown, brown, and reddish-brown, sandy silty gravel and gravelly, silty, fine-grained sand, with scattered cobbles and rare boulders.	Medium-dense to very dense GM and SM with subordinate GP-GM and SP-SM.
		Valley floor alluvium		Locally damp to wet, reddish-brown, slightly gravelly, silty to slightly silty, fine- to medium-grained sand; minor red-brown to tan sandy silt.	Medium-dense to very dense SM; minor very stiff ML.
		Tributary alluvium		Brown sandy gravel, gravelly sand, gravelly silty sand, and silty, fine-grained sand.	Loose to medium-dense GP, SP, and SM.
Intermediate-age Quaternary fan alluvium	Qam	Not applicable	Late and middle Pleistocene	Light-grayish-brown, reddish-brown, brown, and light-brown, slightly silty, sandy gravel with cobbles and boulders and gravelly silty sand with scattered cobbles, containing white calcrete horizons consisting of cobble- to boulder-sized clasts up to 2-ft diameter in gravelly, calcium carbonate-cemented, silty sand	Medium dense GP, SP, and SM with very dense calcrete.

TABLE 3
DESCRIPTION OF GEOLOGIC UNITS

Combined Unit	Symbol	Included Stratigraphic Units	Age	Lithology	Engineering Description
Old Quaternary fan, valley floor, and tributary alluvium	Qao	Upper and middle fan alluvium	Late to early Pleistocene	Unconsolidated to well-cemented, reddish-brown, brown, and light-brown, sandy gravel, and slightly silty to silty, locally clayey, sandy gravel with abundant carbonate-coated cobbles and scattered boulders to 4-ft diameter of sedimentary and volcanic rocks; subordinate gravelly fine- to coarse-grained sand, gravelly silty to clayey sand, and silty sand; pervasive thin layers of white calcrete (carbonate-cemented gravel, cobbles, and some boulders).	Generally medium-dense to very dense GP and subordinate SP to SM, with thin layers of low- to moderate-strength (or very dense) calcrete
		Lower and distal fan alluvium		Brown, light-brown, light-grayish-brown, gray, reddish-brown, and tan, slightly silty to silty, sandy gravel with carbonate-coated cobbles and scattered small boulders and slightly gravelly to gravelly, silty sand with scattered cobbles; local sandy silt, gravelly sandy clay, and calcrete.	Dense to very dense GP and loose to dense SM and SP-SM, locally with stiff ML or CL or low- to moderate-strength (or very dense) calcrete.
		Valley floor alluvium		Reddish-brown, brown, and light-brown, silty, fine-grained sand, and slightly gravelly to gravelly, silty sand	Dense to very dense SM and SM-SP.
		Tributary alluvium		Reddish-brown, clayey, sandy, fine to coarse gravel; slightly silty, gravelly, fine- to coarse-grained sand; and slightly gravelly, silty sand.	Dense to very dense GP, SP, and SM.
Quaternary-Tertiary alluvium	QTa	Pediment gravel	Pleistocene to Pliocene	Brown to brownish-yellow, slightly gravelly, medium- to coarse-grained sand, gravelly sand, and sandy gravel, unconsolidated to poorly cemented with limonite.	Medium-dense to dense SP and GP.
		Remnant alluvial fans		Reddish- to yellowish-brown, non- to well-indurated, slightly gravelly to gravelly, silty sand and sandy gravel	Very dense SM, SP-SM, and GP
		Paleocolluvium		Brick-red and reddish-brown clay with seams of coarse sand and fine gravel, slightly gravelly to gravelly clay, and slightly gravelly, silty sand.	Very stiff to hard CH and very dense SM.
Quaternary-Tertiary colluvium, including talus	QTc	Not applicable	Holocene to Pliocene	Varies according to underlying rock and sediments.	Varies according to underlying rock and sediments.
Quaternary-Tertiary alluvium, undivided	QTau	Variable	Holocene to Pliocene	Variable	Variable
Quaternary-Tertiary basalt lava flows	QTb	Lathrop Wells Cone (Amargosa Valley)	Holocene to Oligocene (~0.07-26 Ma)	Generally dark-gray to black, finely crystalline to porphyritic, locally auto-brecciated, variably vesicular, basalt to basaltic andesite lava flows. Many vesicular flows contain secondary minerals (amygdules) partially or nearly completely filling voids. Black to red, scoriaceous cinder cones, related lava flows, and feeder dikes occur in and near Crater Flat and Oasis Valley. Basalt megabreccia, consisting of rounded to sub-rounded, small to very large boulders of basalt in a matrix of welded, lithic-rich, basaltic andesite? tuff, forms most of the cliffs flanking the southwest side of Echo Canyon in the Reveille Range. Basalt breccia cemented with calcium carbonate was observed beneath a lava flow in Sarcobatus Flat.	This geologic unit generally has very high strength and has closely to widely spaced fractures. Basalt, in general, is resistant and forms or caps upland areas, including Skull Mountain, Coba Mountain, Blackcap Mountain, and Malpais Mesa.
		Red, Black, and Makani Cones (Crater Flat)			
		Little Black Peak & Hidden Cones (Oasis Valley)			
		Basalt flows of Thirsty Mountain			
		Basalt flows in Chief Range			
		Basalt flows in Reveille Valley & Reveille Range			
		Basalt flows in southern Crater Flat			
		Malpais Basalt			
		Basalt of Black Mountain			
		Basalt of Skull Mountain			
		Basalt flows north of Bare Mountain			
		Mira Basalt			
		Basalt of Blackcap Mountain			
		Basalt flows in North Pahroc Range			

TABLE 3
DESCRIPTION OF GEOLOGIC UNITS

Combined Unit	Symbol	Included Stratigraphic Units	Age	Lithology	Engineering Description
Tertiary Fan Alluvium	Tf	Fan Alluvium of Antelope Canyon	Pliocene	Light-gray and locally light-pink gravelly sandstone and conglomerate with layers of silt, ash-flow tuff, and possible mudflow breccia. Where encountered in Cobalt Canyon, the unit exhibited moderate to high strength.	Outcrops observed in Cobalt Canyon on the east side of the Chief Range consist of moderate to high strength sandstone and conglomerate with subordinate siltstone and ash-flow tuff. Outcrops of Tertiary fan alluvium generally form moderately to highly dissected benches on the east side of the Chief Range.
Tertiary lake beds	Tl	White River Narrows unit Panaca Formation Lake beds of Sheep Spring Draw	Pliocene and Miocene	The lakebeds in most places consist of tan, beige, brown, reddish-brown, salmon-pink, light-gray, and white, poorly to moderately consolidated clay and silt, with subordinate, locally cross-bedded, fine- to medium-grained sand, and minor thin beds of fine gravel, limestone, and diatomite. However, in and near Sheep Spring Draw (in the Cedar Range), fine- to coarse-grained sand, gravelly sand, and gravelly, clayey sand, with thin beds of gravelly sandstone and conglomerate, predominate over sandy clay and silt.	In most places, this geologic unit consists of stiff to hard CL, CH and ML, with subordinate loose to medium-dense SP and GP. In the Sheep Spring Draw area, loose to dense SP and SP-SC predominate over stiff CH and ML. Where sediments have been indurated moderately or strongly to form claystone, siltstone, sandstone, gravelly sandstone, or conglomerate, they generally have moderate to medium-high strength. In outcrops of the Panaca Formation, fractures in sandstone, which are closely to medium-spaced, extend into claystone with the same spacing. The lakebeds in Sheep Spring Draw are cut by steeply dipping, carbonate-filled fractures, one of which is a fault that displaces beds down to the southeast about 14 inches. The lakebeds, which are thin- to thick-bedded, locally erode into spires and columns and generally form hills and swales (badlands).
Younger Tertiary sedimentary rocks	Tsy	Basin-fill sediments in Oasis, White River, and Meadow Valleys Caldera-moat filling sediments in Pahute Mesa area Fan alluvium of Antelope Canyon Conglomerate and sandstone in Goldfield Hills Conglomerate of Ash Canyon Pozo Formation Lacustrine deposits east of Clifford Mine Siebert Tuff Sedimentary rocks of Newman Canyon Rocks of Pavits Spring McCullough Formation	Pliocene to middle Miocene (2.9-16 Ma)	Tan, light-gray, light-orange, green, brownish- to greenish-yellow, yellowish- to reddish-brown, red, and pink, poorly to moderately consolidated, thinly to very thickly bedded, fluvial conglomerate, gravelly sandstone, sandstone, siltstone, and shale; locally intercalated with bedded tuff, playa sediments, and lakebeds. Typically, sandstone, gravelly sandstone, and conglomerate grade into each other and erode easily into gravelly sand and sandy gravel colluvium. Sedimentary rocks comprise most of the misnamed Siebert Tuff, but in the Goldfield Hills, sandstone and conglomerate in the Siebert are intercalated with a prominent light-gray to white, nonwelded, biotite-rich, lithic-rich ash-fall tuff. In the White River Valley, mostly unconsolidated cobble-gravel intervals interfinger with, and grade into lacustrine silt, clay, and fine-grained sand.	Basin-fill sediments in Oasis Valley, the Bullfrog Hills, and Clover Creek Valley generally have moderate to medium-high strength and have very closely to medium-spaced fractures. Colluvium, which is dense to very dense SP and GP, generally covers most of the surface area where these basin-fill sediments are present. Sedimentary rocks in the Siebert Tuff have moderate to high strength, have closely to widely spaced fractures, and are prone to slumping; the ash-fall tuff in this geologic unit has low to moderate strength and has closely to very widely spaced fractures. Basin-fill sediments in the White River Valley typically consist of loose to very dense GP interbedded in variable proportions with stiff to very stiff ML and CL. Individual geologic units that make up the younger Tertiary sedimentary rocks composite unit commonly form benches.
Volcanics of Stonewall Mountain	Tsv	Spearhead and Civet Cat Canyon Members of Tuff of Stonewall Flat (Tst)	Miocene (7.5-7.8 Ma)	Light-gray, gray, pink, purple, light-orange-brown, and brick-red, nonwelded to moderately welded, crystal-poor, lithic-rich, trachyte to comendite ash-flow tuff.	Most outcrops inspected on the south flank of the Goldfield Hills and at Malpais Mesa had high to very high strength, but weathering was found to decrease strength significantly. At a site where the rock was weathered cavernously, relative strength was low. In general, this geologic unit has closely to widely spaced fractures. Bedding ranges from slabby to indistinct (massive). The geologic unit tends to form caprock on mesas underlain by less resistant formations.
Late to middle Miocene lava flows and intrusives of intermediate composition with subordinate pyroclastic rocks	Ta4	Andesite of Sarcobatus Flat (Tsa) Andesite south of Black Spring Basaltic andesite in the Clifford Mine area Volcanic rocks of Klondike Spring	Late to middle Miocene (7.5-16 Ma)	Black, gray, purple, and reddish-brown, commonly glassy, commonly foliated, locally hydrothermally altered, dacite, andesite and basaltic andesite lava flows and flow breccia, with mudflow breccia and subordinate tuffaceous and sedimentary rocks.	On the west side of the Kawich Range, a moderately to highly weathered, porphyritic dacite lava flow has medium-high to high strength and closely to very closely spaced fractures with oxidized surfaces.
Tertiary rhyolite lava flows and related intrusives	Tvr	Rhyolite of Stonewall Mountain Rhyolite of Obsidian Butte Rhyolite of Sarcobatus Flat Rhyolite of Colson Pond Rhyolite of Cactus Peak	Miocene (7.5-23 Ma)	Red, purple, gray, black, white, and yellowish-brown, porphyritic to crystal-poor, commonly foliated, rhyolite to rhyodacite lava flows and domes with subordinate perlite, dikes and pyroclastic rocks. In Oasis Valley, an outcrop of the Rhyolite of Colson Pond consisted of gray, foliated perlite overlain by a gray, slightly vesicular, porphyritic, rhyolite lava flow.	The perlite and rhyolite lava flow in the Rhyolite of Colson Pond cropping out in Oasis Valley had high to very high strength and had very closely to widely spaced fractures, with slickensides on bedding planes. The slickensides indicate possible folding in the vicinity of the outcrop.

TABLE 3
DESCRIPTION OF GEOLOGIC UNITS

Combined Unit	Symbol	Included Stratigraphic Units	Age	Lithology	Engineering Description
		Rhyolite north of Cedar Pass (Kawich Range)			
		Rhyolite intrusions at Warm Springs Summit			
		Rhyolite of O'Brien's Knob			
		Rhyolite of Wildhorse Spring			
Landslide deposits	QTls	Not applicable	Holocene to Pliocene	Brecciated slide sheets and blocks, sedimentary breccia and conglomerate, and subordinate finer-grained tuffaceous sedimentary rocks and tuff. At wpt SM281 rock is described as ashflow tuff, low to medium high strength, light gray (less than 10 percent diverse crystals, lithic-rich (diverse lithologies) coarse sand to gravel size fragments), close to medium spaced, occasionally widely spaced fractures.	Where slightly weathered, the megabreccia is low to medium high strength, generally infrequently widely spaced, close to medium fracture spacing.
Tuff of Gold Flat	Tg	Not applicable	Miocene (9.15 Ma)	Bluish-green, yellow, and reddish-brown, partially welded to densely welded, crystal-poor, lithic-poor to lithic-rich, pantellerite ash-flow tuff.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Thirsty Canyon Group	Tt	Trail Ridge Tuff	Miocene (9.3-9.45 Ma)	Tan, pink, rusty-red, gray, and greenish-brown, nonwelded to densely welded, crystal-poor, comendite ash-flow tuff.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
		Pahute Mesa Tuff			
		Rocket Wash Tuff			
Volcanics of Fortymile Canyon	Tfv	Rhyolite of Springdale Mountain	Miocene (10.3-11.45 Ma)	Black, gray, brown, orange, red, purple, and white, crystal-rich to crystal-poor, rhyolite, rhyodacite, trachyte, andesite, basaltic andesite, and basalt lava flows, flow breccia, mudflow breccia, nonwelded to densely welded ash-flow tuff, and bedded ash-fall, ash-flow, and reworked tuff.	Although crossed by the rail corridor in Oasis Valley, this geologic unit was not visited because of restricted access.
		Rhyolite of Rainbow Mountain			
		Trachyte of Donovan Mountain			
		Lava flows of Dome Mountain			
		Beatty Wash Formation			
		Tuff of Cutoff Road			
		Rhyolite of Chukar Canyon			
		Rhyolite of Fortymile Canyon			
		Rhyodacite of Fleur-de-lis Ranch			
		Rhyolite lavas of West Cat Canyon			
Timber Mountain Group (Tm)	Tmar	Ammonia Tanks Tuff	Miocene (11.45-11.6 Ma)	Purple, purplish-gray, gray, pink, light-brownish-red, and reddish- to light-brown, locally flow-banded, nonwelded to densely welded, crystal-rich, variably lithic, partly lithophysal, trachyte to rhyolite ash-flow tuff with minor bedded tuff.	Outcrops of this geologic unit have moderate to very high strength and very closely to widely spaced fractures. Because of variable lithology, this geologic unit forms cliffs, ledges, and slopes.
		Rainier Mesa Tuff			
	Tmrf	Rhyolite of Fluorspar Canyon	Miocene (11.6-11.7 Ma	White, grayish-white, light-gray, salmon-pink, pink, and beige, slightly to highly weathered, thickly bedded, rhyolitic, nonwelded ash-flow tuff, ash-fall tuff, and reworked ash-fall tuff with subordinate lava flows.	Outcrops of this geologic unit have low to medium-high strength and closely to very widely spaced fractures. The rock erodes easily and generally forms slopes below unit Tmar.
		Tuff of Holmes Road			
Steamboat Mountain Formation	Tsb	Not applicable	Miocene (11.7+1.0 Ma)	Pinkish-, lavender-, greenish-, and yellowish-gray, tan, and white, rhyolite lava flows, domes, and lithic-rich ash-flow tuff with sandstone beds.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Ox Valley Tuff	Tox	Not applicable	Miocene (12.3-12.6 Ma)	Light-gray, partially welded to densely-welded, crystal-rich, rhyolite ash-flow tuff.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Paintbrush Group	Tp	Rhyolite of Windy Wash	Miocene (12.5-12.8 Ma)	Grayish-white to gray, purple, purplish-gray, red, pink, grayish- to light-orange, purplish-brown, brown, and light-tan, moderately to densely welded, crystal-poor, variably lithophysal, rhyolite to trachyte ash-flow tuff with subordinate nonwelded to partially welded ash-flow tuff, vitrophyre, tuff breccia, bedded tuff, and lava flows; red to reddish-orange, variably indurated, variably altered breccia common in fault zones.	Moderately to densely welded tuff, vitrophyre, tuff breccia, and lava flows generally have high to very high strength, but nonwelded to partially welded ash-flow tuff and bedded tuff can have low to moderate strength. Typically shattered, weathered, and oxidized fault breccia has low to high strength. Fractures generally are closely to widely spaced, but spacing can be wide to very wide in bedded intervals and extremely close to close adjacent to faults. Because of variable lithology, this geologic unit forms cliffs, ledges, and slopes.
		Rhyolite of Comb Peak			
		Rhyolite of Vent Pass			
		Tiva Canyon Tuff			
		Rhyolite of Delirium Canyon			
		Yucca Mountain Tuff			
		Rhyolite of Echo Peak			

TABLE 3
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Combined Unit	Symbol	Included Stratigraphic Units	Age	Lithology	Engineering Description
		Rhyolite of Black Glass Canyon Pah Canyon Tuff Topopah Spring Tuff			
Calico Hills Formation	Tac	Not applicable	Miocene (12.9 Ma)	Salmon-pink, light-purple, light-yellow, brown, gray, and grayish-green, rhyolite lava flows and bedded, commonly zeolitized, lithic-rich, ash-flow tuff, ash-fall tuff, tuff breccia, and tuffaceous sandstone.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Wahmonie Formation	Twa	Not applicable	Miocene (13.0 Ma)	Variegated, porphyritic andesite to rhyodacite lava flows, flow breccia, mudflow breccia, and bedded tuff, tuff breccia, sandstone, and conglomerate.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Crater Flat Group	Tc	Prow Pass Tuff Bullfrog Tuff Rhyolite of Prospector Pass Tram Tuff	Miocene (13.1-13.5 Ma)	Olive, gray, lavender, red, brown, and orange, nonwelded to densely welded, crystal-poor, rhyolite ash-flow tuff with subordinate lava flows and bedded tuff.	An outcrop of brecciated, silicified, densely welded ash-flow tuff near a fault cutting Tram Ridge exhibited very high strength and was very closely fractured. In three boreholes drilled at the north end of Bow Ridge, fractures pervade tuff of unit Tc, but they are distributed unevenly, and intervals range from unfractured to very fractured. On the average, moderately welded to densely welded ash-flow tuff and fault-brecciated tuff intervals are the most fractured. Because of variable lithology, this geologic unit forms cliffs, ledges, and slopes.
Belted Range Group	Tb	Dead Horse Flat Formation Grouse Canyon Tuff	Miocene (13.5-13.85 Ma)	Gray, greenish-gray, bluish-gray, and red, comendite to trachyte lava flows, flow breccia, ash-flow tuff, vitrophyre, and bedded tuff.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Tuff of Etna	Te	Not applicable	Miocene (~13.8-14.1 Ma)	Gray, partially welded to densely welded, crystal-poor to crystal-rich, rhyolite ash-flow tuff.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Tram Ridge Group	Tr	Lithic Ridge Tuff Rhyolite of Picture Rock	Miocene (14.0-14.1 Ma)	Light- to grayish-green, light-olive-gray, ochre, brown, and maroon, partially-welded, crystal-poor, lithic-rich, rhyodacite ash-flow tuff, bedded ash-fall tuff, and porphyritic dacite to rhyolite lava flows.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Volcanics of Quartz Mountain	Tqv	Rhyolite of Quartz Mountain Rhyolite of Coyote Cuesta Tuff of Sleeping Butte Tuff of Tolicha Peak Dacite of Mount Helen	Miocene (14.3-14.6 Ma)	Gray, grayish-brown, pinkish-brown, orange, and white, rhyolite to dacite lava flows, flow breccia, domes, partially-welded-densely-welded ash-flow tuff, tuff breccia, ash-fall tuff, reworked tuff, and sedimentary rocks.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Tuff of Yucca Flat	Toy	Not applicable	Miocene (15.1 Ma)	White, light-red, and light olive-gray, nonwelded to partially welded, crystal-poor, rhyolite ash-flow tuff.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Redrock Valley Tuff	Tor	Not applicable	Miocene (15.4 Ma)	Orange to reddish-brown, densely welded, crystal-poor, rhyolite ash-flow tuff.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Older Tertiary sedimentary rocks	Tso	Panuga Formation ("green conglomerate") Sedimentary and volcaniclastic rocks in Chief Range Volcaniclastic rocks in Goldfield Hills Titus Canyon Formation Rocks of Winapi Wash Lacustrine and fluvial sedimentary rocks in North Pahroc Range Conglomerate in Seaman Range	Early Miocene to Oligocene (~16-36 Ma)	Brown, red, gray, green, and orange boulder to pebble conglomerate, sandstone, siltstone, mudstone, marl, and limestone, with landslide-deposited megabreccia, mudflow breccia, reworked and ash-fall tuff, and locally intercalated lava flows.	Although present near the rail corridor, this geologic unit does not crop out within it and was not visited.
Miocene-Oligocene mostly silicic ash-flow tuff with interbedded ash-fall tuff	Tt3	Fraction Tuff (Tft) Tuff of Tepee Rocks Hiko Tuff Racer Canyon Tuff Tuff of Chispa Hills (Tdv) Harmony Hills Tuff Tuff of White Blotch Spring	Early Miocene to late Oligocene (~16-27 Ma)	Black, light- to dark-gray, greenish-gray, purplish- to reddish-gray, purple, red, brownish-red, pink, orange, purplish-brown, brown, tan, pinkish-beige, and white, nonwelded to densely welded, variably porphyritic, variably lithic, variably lithophysal, rhyolite to rhyodacite ash-flow tuff with subordinate dacite, andesite, and trachyte ash-flow tuff, vitrophyre, and intercalated andesite to basalt lava flows; locally altered hydrothermally.	Most outcrops have high to very high strength, but nonwelded to partially welded tuff and hydrothermally altered rock can have moderate to medium-high strength. At a site in the northern Goldfield Hills, moderately welded tuff breaks readily perpendicular to foliation planes. Conversely, nonwelded to partially welded tuff in the Cedar Range tends to form massively rounded cliffs. Fractures typically are very closely to widely-spaced, but they can be widely to very widely spaced where the rock is especially resistant. In the Golden Gate and Chief Ranges, some tuffs tended to weather along rectangular fractures into rounded, bouldery looking columns. Because of variable

TABLE 3
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Combined Unit	Symbol	Included Stratigraphic Units	Age	Lithology	Engineering Description
		Pahranagat Formation Condor Canyon Formation Leach Canyon Formation Tuff of Goblin Knobs Isom Formation Shingle Pass Tuff Tuff of Hancock Summit Tuff of Antelope Springs Tuff of the Golden Gate Range Tuff of the Seaman Range			lithology, unit Tt3 forms cliffs, ledges, and slopes.
Miocene-Oligocene lava flows and intrusives of intermediate composition with subordinate pyroclastic rocks	Ta3	Rhyodacite of Bellehelen Lakes Porphyry of Meadow Valley Wash Chispa Andesite (Ta) Dacite at Goldfield (Td) Milltown Andesite (Tma) Lava flows of Indian Cove Porphyritic rhyodacite in Goldfield Hills	Early Miocene to late Oligocene (~16-27 Ma)	Black, gray, olive, greenish-gray, purplish-gray, pale-grayish-purple, red, pink, reddish-brown, brown, tan, orange, and white, porphyritic, andesite to rhyodacite lava flows, flow breccia, mudflow breccia, domes, plugs, and dikes; locally intercalated with tuff, clastic rocks, or basalt lava flows or underlain by grayish-green to black perlite layers; hydrothermally altered extensively in Goldfield Hills.	Lava flows, perlite intervals, intrusive bodies, and volcanic mudflow breccia typically have high to very high strength, but strength decreases to very low to low in response to hydrothermal alteration to clay or clayey megabreccia locally accompanied by shearing. Very closely to widely spaced fractures were observed in outcrops of unaltered andesite and dacite lava flows, perlite, and moderately weathered diorite. Unaltered rocks are resistant and tend to form hills and cliffs.
Shingle Pass Tuff, Monotony Tuff, and related tuffs	Tsm	Pahroc sequence Isom Formation Blawn Formation(?) Shingle Pass Tuff Tuff of Hancock Summit Tuff of Hamilton Spring Monotony Tuff	Oligocene (~24-27 Ma)	Pale-red, gray, brownish- to yellowish-gray, grayish-orange-pink, and reddish-brown, nonwelded to densely welded, partly vitrophyric, generally crystal-poor, rhyolite, trachyte, and dacite ash-flow tuff.	Where observed, densely welded tuff and lava flows exhibited high to very high strength and had closely to medium-spaced fractures. Because of variable lithology, unit Tsm forms cliffs, ledges, and slopes.
Shingle Pass Tuff, Needles Range Group, and related tuffs	Tsn	Isom Formation Tuff of the Seaman Range Shingle Pass Tuff Tuff of Hancock Summit Tuff of the Golden Gate Range Tuff of Hamilton Spring Lund Formation (Needles Range Group)	Oligocene (~24-27.9 Ma)	Light- to dark-gray, pinkish-gray, orange-pink, pink, and lavender, moderately welded to densely welded, partly vitrophyric, generally crystal-poor, mostly rhyolite to trachyte ash-flow tuff.	Where observed, moderately to densely welded tuff exhibited high to very high strength and had very closely to widely spaced fractures. Because of variable lithology, unit Tsn forms cliffs, ledges, and slopes.
Oligocene silicic to intermediate ash-flow tuff with ash-fall tuff and volcaniclastic and sedimentary rocks	Tt2	Monotony Tuff Tuff of Little Boulder Spring Petroglyph Cliff Tuff Lund Formation (Needles Range Group) Formation of Black Rock Spring Mudflow of Coal Spring Tuff of Deadman Spring Tuff of Red Top Wah Wah Springs Fm (Needles Range Group) Cottonwood Wash Tuff (Needles Range Group) Windous Butte Formation Sandstorm Formation Kendall Tuff	Oligocene (~27-33 Ma)	Gray, light-gray, greenish-gray, green, brown, grayish-brown, yellow, buff, pale-purple, red, brownish-red, pink, pinkish-tan, orange, and white, nonwelded to densely welded, variably porphyritic, variably lithic, variably lithophysal, dacite, trachyte, and rhyolite ash-flow tuff, with bedded lithic-rich tuff and volcaniclastic rocks, tuff breccia, mudflow breccia, andesite lava flows, and diorite plugs; locally altered hydrothermally in the Goldfield Hills and Kawich Range to predominantly clay minerals or mixtures of chlorite, sericite, amorphous silica, and carbonate minerals.	Unaltered ash-flow tuff has very high strength where densely welded and medium-high strength where partially welded. Where chloritized, strength of ash-flow tuff can be expected to decrease to moderate to low. Moderately chloritized diorite exhibits high strength. Reworked tuff and volcaniclastic rocks are friable in outcrop and exhibit moderate to medium-high strength. Outcrops of reworked tuff and volcaniclastic rocks have thickly to very thickly spaced bedding, as do outcrops of volcanic mudflow breccia. Observed fracture spacing was very close to wide in unaltered and altered ash-flow tuff, bedded reworked tuff, and volcaniclastic rocks. Because of variable lithology, unit Tt2 tends to form cliffs, ledges and slopes, but bedded reworked tuff locally weathers to knobs and buttes.

TABLE 3
DESCRIPTION OF GEOLOGIC UNITS

Combined Unit	Symbol	Included Stratigraphic Units	Age	Lithology	Engineering Description
		Vindicator Rhyolite			
Oligocene lava flows and intrusives of intermediate composition with subordinate pyroclastic rocks	Ta2	Andesite lava flow of Hamilton Spring Dacite of Reveille Valley Andesite of southern Reveille Valley Andesite lava flow of Mustang Spring Andesite lava flow of Coal Spring Andesite lava flows of Wheat grass Spring	Oligocene (~27-33 Ma)	Black, dark-gray, greenish-gray, brownish-gray, light-brown, purple, and red, porphyritic, flow-banded, partly vesicular, andesite to dacite lava flows and domes.	Dacite lava flows in Reveille Valley exhibit very high strength, have very closely to widely spaced fractures, and form steep cliffs where a slot canyon is incised into a plateau underlain by the lava flows.
Tertiary volcanic rocks, undifferentiated	Tvu	Variable	Miocene and Oligocene	Variable	Variable
Sheep Pass Formation	Tsp	Not applicable	Eocene and Paleocene	Calcite-cemented conglomerate and breccia overlain by limestone and thin-bedded shale, marl, and fine-grained sandstone.	Strength is estimated to range from moderate in thin shale layers to very high in thick-bedded limestone and conglomerate intervals. The geologic unit is thin to thick-bedded and forms ledgy slopes.
Tertiary to Jurassic granitic rocks	TJg	Porphyry of Meadow Valley Wash Cobalt Canyon Stock Quartz monzonite in Goldfield Hills Granite of Fluorspar Canyon Belmont Stock Gold Meadows Stock	Early Miocene to Jurassic	Gray, pink, and orange quartz monzonite, granodiorite, and granite (dacite to rhyolite where fine-grained) stocks, plugs, and dikes.	Strength is estimated to be high to very high. Fractures are estimated to be very closely to widely spaced. The rocks are mostly resistant, but they locally crop out as crumbly grus (fragmented rock derived from weathering of granite).
Permian and Pennsylvanian carbonate rocks	PPl	Bird Spring Formation Tippipah Limestone Ely Limestone (PPe)	Early Permian to Pennsylvanian	Light-gray, dark-gray, and olive-gray, fine-grained to coarsely crystalline, fossiliferous, cherty, siliceous, and silty limestone and dolomite with subordinate sandy limestone and dolomite, algal limestone, and grayish-orange-pink to pale-yellowish-brown, cross-bedded, fine- to coarse-grained sandstone.	Strength is generally very high, but more thinly bedded intervals tend to have moderate to high strength. Bedding ranges from laminated to thickly spaced, with thinner bedding in silty intervals and thicker bedding in siliceous and cherty intervals. Fractures are very closely to widely spaced, with more fracturing in cherty intervals. Rock locally is brecciated, but fractures in the breccia are healed with calcite. Variations in texture and lithology give the geologic unit a characteristic slope and ledge appearance.
Upper Mississippian clastic rocks	Muc	Diamond Peak Formation Scotty Wash Quartzite (Msc where mapped separately or with the Chainman Shale)	Late Mississippian	Dark-gray, grayish-orange, yellowish-brown, and brown, cross-bedded, fine- to medium-grained, calcite- and silica-cemented, quartz sandstone and quartzite with interbedded siltstone, mudstone, and pebble conglomerate, overlain in northwestern Lincoln County by olive, gray, and red, bioclastic limestone and subordinate shale.	Estimated strength ranges from moderate to very high, with lowest strength in shale intervals and highest strength in quartzite intervals. Bedding ranges from laminated to very thickly spaced. Depending on type and degree of cement, sandstone ranges from slightly friable to resistant. Variations in texture and lithology give the geologic unit a characteristic slope, ledge, and cliff appearance.
Joana Limestone	Mj	Not applicable	Mississippian	Medium-gray, dark-gray, and bluish-gray, commonly fossiliferous, partly cherty, fine-grained and finely to coarsely crystalline limestone, locally with shale laminae.	Strength is estimated to be generally high to very high. Bedding ranges from laminated to very thickly spaced. Because of variations in texture and lithology, this geologic unit forms ledgy slopes and cliffs.
Mississippian and Devonian shale and limestone	MDs	Chainman Shale Eleana Formation Pilot Shale (MDp) West Range Limestone	Mississippian and Late Devonian	Black, dark- to medium-gray, greenish- to olive-gray, brown, reddish-brown, yellowish-brown, and yellowish-orange, siltstone, mudstone, calcareous shale, argillite, and commonly cherty, commonly bioclastic to fossiliferous, generally fine-grained to finely crystalline limestone and silty limestone, with minor to subordinate, fine- to coarse-grained sandstone, chert-lithic sandstone, quartzite, conglomerate, and bedded chert.	Observed strength of interbedded shale and limestone in the Golden Gate Range was moderate to high, but the strength of conglomerate, sandstone, quartzite and thickly bedded limestone intervals might be high to very high. Bedding generally is laminated to thin and commonly fissile, but it can be thick to very thick in more resistant intervals. Observed fracture spacing of interbedded shale and limestone in the Golden Gate Range was very close to close. The geologic unit characteristically crops out as ledgy slopes or as low, rounded hills and swales.
Guilmette Formation	Dg	Not applicable	Late and Middle Devonian	Light- to dark-gray, olive- to brownish-gray, and yellowish-brown, fossiliferous, finely to coarsely crystalline dolomite, limestone, and silty limestone interbedded in the upper part of the formation with gray, tan, and white, fine- to coarse-grained quartzite and sandstone.	The formation generally has medium-high to very high strength, but platy splitting limestone and dolomite have moderate strength. Bedding is thinly to thickly spaced in the upper part of the formation and mostly thinly spaced in the lower part of the formation. Fractures generally are closely to widely spaced, but they can be very closely spaced in thinly bedded carbonate intervals. The formation weathers to cliffs and ledgy slopes.
Devonian and	DSl	Simonson Dolomite (Dsi)	Devonian and	Light- to dark-gray, light-olive-gray, tan, and dark-brown, commonly	Estimated strength is high to very high. Bedding typically is thinly to thickly spaced, but

TABLE 3
DESCRIPTION OF GEOLOGIC UNITS

Combined Unit	Symbol	Included Stratigraphic Units	Age	Lithology	Engineering Description
Silurian carbonate rocks		Sevy Dolomite Lone Mountain Dolomite Roberts Mountain Formation Laketown Dolomite	Silurian	fossiliferous, partly cherty, commonly brecciated, locally silty to sandy, fine-grained and finely to coarsely crystalline dolomite, with minor interbedded, fine-grained sandstone.	it can be indistinct where the rock has been brecciated or recrystallized. The geologic unit forms ledgy cliffs and slopes.
Ordovician sedimentary rocks	Os	Ely Springs Dolomite Eureka Quartzite Pogonip Group Palmetto Formation	Ordovician	Light- to dark-gray, bluish-gray, olive-gray, black, and brown, fossiliferous, partly cherty, partly nodular, commonly silty, locally shaley to sandy, fine-grained and finely to coarsely crystalline dolomite and limestone; white, light brown, and varicolored, commonly cross-bedded, fine to medium-grained quartzite and quartz sandstone; and generally subordinate, fissile, varicolored, interbedded siltstone, calcareous siltstone, claystone, and chert.	Strength is estimated to be moderate to very high, with lowest strength in shaley intervals and highest strength in quartzite and cherty carbonate intervals. Bedding is laminated to very thickly spaced; laminated to very thinly bedded intervals tend to split into flaggy pieces. The Ely Springs Dolomite and Eureka Quartzite mostly form cliffs and ledges; the Pogonip Group forms cliffs, ledges, slopes, and swales; the Palmetto Formation is estimated to weather mostly to ledgy slopes and swales.
Upper Cambrian sedimentary rocks	Cus	House Limestone (Coh) Emigrant Formation Swarbrick Formation Windfall Formation Smoky and Halfpint Members of Nopah Formation (Cn) Dunderberg Shale Member of Nopah Formation Dunderberg Shale Bonanza King Formation Highland Peak Formation (Chp) Chisholm Shale (Cc) Carrara Formation Lyndon Limestone (Cl) Mule Spring Limestone Pioche Shale (Cp) Harkless Formation	Late and Middle Cambrian	Light to dark-gray, orange, and tan, partly cherty, oolitic, or silty, locally stromatolitic or sandy, fine-grained and finely to coarsely crystalline dolomite and limestone; and green, gray, pale-red, pale-purple, brown, and light-yellow-brown, locally micaceous, siltstone, shale, and argillite; with scattered thin beds of sandstone and quartzite.	Strength is estimated to be moderate to very high, with lowest strength in shale and siltstone intervals and highest strength in thickly bedded carbonate rocks and quartzite. Shale and siltstone typically are laminated to thinly bedded and fissile. Carbonate rocks are laminated to very thickly or indistinctly bedded. Laminated to very thinly spaced carbonate rocks tend to split into flaggy pieces. Although massive appearing, thickly bedded carbonate rocks can have close to medium-spaced fractures and be locally brecciated. Shale and siltstone form slopes and valleys, whereas carbonate rocks form cliffs, ledges, and ledgy slopes.
Lower Cambrian and Late Proterozoic sedimentary rocks	CZs	Prospect Mountain Quartzite Zabriskie Quartzite Poleta Formation Wood Canyon Formation Campito Formation Deep Spring Formation Stirling Quartzite Reed Dolomite Johnnie Formation Wyman Formation	Early Cambrian and Late Proterozoic	White, pink, red, purple, green, gray, yellowish-gray, brown, light-yellowish-brown, and orange, commonly cross-bedded, arkosic to quartzose, partly micaceous, silty, or gravelly, locally calcareous, fine to coarse-grained quartzite and sandstone, with minor conglomerate; partly micaceous, locally sandy or calcareous siltstone and shale; and subordinate, locally sandy, oolitic, or algal, fine-grained to coarsely crystalline dolomite and limestone; which are metamorphosed locally to phyllite, schist, hornfels, and marble.	Estimated strength is moderate to very high, with lowest strength in siltstone and shale intervals and highest strength in quartzite, marble, and thicker bedded limestone and dolomite intervals. Bedding is laminated to thickly (or indistinctly) spaced. Quartzite and sandstone tend to form cliffs, ridges, and ledges; carbonate rocks are moderately resistant; siltstone and shale tend to be fissile and form slopes and valleys. Metamorphism toward Death Valley and igneous intrusions generally increases the thickness and strength of rock layers.

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL
TABLE OF CONTENTS

Alignment Segment Symbol	Alignment Segment Name	Page
BC2	Bonnie Claire 2	1
BC3	Bonnie Claire 3	1
Caliente	Caliente	3
CS1	Common Segment 1	5
CS2	Common Segment 2	8
CS3	Common Segment 3	10
CS4	Common Segment 4	14
CS5	Common Segment 5	14
CS6	Common Segment 6	16
Eccles	Eccles	20
GF1	Goldfield 1	22
GF3	Goldfield 3	27
GF4	Goldfield 4	32
GV1	Garden Valley 1	36
GV2	Garden Valley 2	37
GV3	Garden Valley 3	37
OV1	Oasis Valley 1	38
OV3	Oasis Valley 3	39
SR2	South Reveille 2	41
SR3	South Reveille 3	43

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Badrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	Inches	Inches								
Bonnie Claire 2																														
BC2	44,000+00	44,181+00	2532	LAXAL-FANG ASSOCIATION	Laxal	H1	0 to 4	GM	5	10	60 - 80	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
BC2	44,000+00	44,181+00	2532	LAXAL-FANG ASSOCIATION	Laxal	H2	4 to 60	GM	5	15	35 - 45	30 - 40	15 - 25	10 - 15	-	--	14 - 42	8.5 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
BC2	44,000+00	44,181+00	2532	LAXAL-FANG ASSOCIATION	Fang	H1	0 to 3	SM	--	--	90 - 100	85 - 100	60 - 80	30 - 45	15 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC2	44,000+00	44,181+00	2532	LAXAL-FANG ASSOCIATION	Fang	H2	3 to 42	SM	--	--	80 - 100	75 - 100	40 - 75	25 - 45	20 - 25	0 - 5	4 - 14	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC2	44,000+00	44,181+00	2532	LAXAL-FANG ASSOCIATION	Fang	H3	42 to 64	SM	--	--	65 - 90	60 - 85	45 - 70	25 - 35	-	--	4 - 14	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC2	44,181+00	44,728+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
BC2	44,728+00	44,752+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H1	0 to 6	GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,728+00	44,752+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,728+00	44,752+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H1	0 to 4	SM	--	5	60 - 80	50 - 75	40 - 60	15 - 35	14	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,728+00	44,752+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H2	4 to 28	GM	5	10	35 - 55	30 - 50	15 - 35	10 - 20	14	--	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,728+00	44,752+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H3	28 to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,728+00	44,752+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H4	44 to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	14	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,728+00	44,752+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H5	52 to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,728+00	44,752+00	2230	Rotinom-Wholan association	Rotinom	H1	0 to 8	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	30 - 40	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,728+00	44,752+00	2230	Rotinom-Wholan association	Rotinom	H2	8 to 60	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	35 - 45	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,728+00	44,752+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,728+00	44,752+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,728+00	44,752+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,728+00	44,752+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,752+00	44,920+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
BC2	44,920+00	44,949+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H1	0 to 6	GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,920+00	44,949+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,920+00	44,949+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H1	0 to 4	SM	--	5	60 - 80	50 - 75	40 - 60	15 - 35	14	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,920+00	44,949+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H2	4 to 28	GM	5	10	35 - 55	30 - 50	15 - 35	10 - 20	14	--	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,920+00	44,949+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H3	28 to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,920+00	44,949+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H4	44 to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	14	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,920+00	44,949+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H5	52 to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC2	44,920+00	44,949+00	2230	Rotinom-Wholan association	Rotinom	H1	0 to 8	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	30 - 40	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,920+00	44,949+00	2230	Rotinom-Wholan association	Rotinom	H2	8 to 60	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	35 - 45	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,920+00	44,949+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,920+00	44,949+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,920+00	44,949+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,920+00	44,949+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC2	44,949+00	44,959+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
Bonnie Claire 3																														
BC3	14,250+00	14,382+00	2532	LAXAL-FANG ASSOCIATION	Laxal	H1	0 to 4	GM	5	10	60 - 80	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
BC3	14,250+00	14,382+00	2532	LAXAL-FANG ASSOCIATION	Laxal	H2	4 to 60	GM	5	15	35 - 45	30 - 40	15 - 25	10 - 15	-	--	14 - 42	8.5 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
BC3	14,250+00	14,382+00	2532	LAXAL-FANG ASSOCIATION	Fang	H1	0 to 3	SM	--	--	90 - 100	85 - 100	60 - 80	30 - 45	15 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC3	14,250+00	14,382+00	2532	LAXAL-FANG ASSOCIATION	Fang	H2	3 to 42	SM	--	--	80 - 100	75 - 100	40 - 75	25 - 45	20 - 25	0 - 5	4 - 14	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC3	14,250+00	14,382+00	2532	LAXAL-FANG ASSOCIATION	Fang	H3	42 to 64	SM	--	--	65 - 90	60 - 85	45 - 70	25 - 35	-	--	4 - 14	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC3	14,382+00	14,416+00	2570	STARGO-PLAYAS ASSOCIATION	Stargo	H1	0 to 4	ML	--	5	90 - 100	85 - 95	70 - 90	35 - 55	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,382+00	14,416+00	2570	STARGO-PLAYAS ASSOCIATION	Stargo	H2	4 to 10	CL	--	--	95 - 100	85 - 95	75 - 85	65 - 75	35 - 45	15 - 20	1 - 4	7.9 - 9.0	2 - 4	3.0 - 5.9	0	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,382+00	14,416+00	2570	STARGO-PLAYAS ASSOCIATION	Stargo	H3	10 to 60	SM	--	5	80 - 90	75 - 85	45 - 60	20 - 35	-	--	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,382+00	14,416+00	2570	STARGO-PLAYAS ASSOCIATION	Playas	H1	0 to 6	ML	--	--	100 - 100	100 - 100	100 - 100	90 - 100	35 - 50	10 - 20	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
BC3	14,382+00	14,416+00	2570	STARGO-PLAYAS ASSOCIATION	Playas	H2	6 to 60	MH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Vigus	H1	0 to 7	SM	--	5	65 - 80	60 - 75	50 - 70	10 - 25	-	--	14 - 42	6.6 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Vigus	H2	7 to 13	SC	--	5	85 - 100	75 - 90	65 - 80	25 - 50	25 - 35	5 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Vigus	H3	13 to 60	SM	--	10	70 - 85	60 - 80	35 - 55	15 - 30	15 - 25	0 - 5	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Wardenot	H1	0 to 5	SM	--	--	60 - 80	50 - 75	40 - 60	20 - 40	20 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Wardenot	H2	5 to 60	GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Fuegosta	H1	0 to 4	SM	--	5	65 - 80	60 - 75	50 - 70	25 - 40	15 - 25	0 - 5	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Fuegosta	H2	4 to 14	SC	--	5	60 - 75	55 - 70	40 - 60	30 - 55	45 - 55	20 - 30	0 - 1	7.9 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Fuegosta	H3	14 to 18	GM	--	5	30 - 55	25 - 50	20 - 45	10 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Fuegosta	H4	18 to 26		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC3	14,416+00	14,492+00	2521	VIGUS-WARDENOT-FUEGOSTA ASSOCIATION	Fuegosta	H5	26 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
BC3	14,492+00	14,518+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H1	0 to 3	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,492+00	14,518+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H2	3 to 9	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,492+00	14,518+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H3	9 to 14	GC-GM	5	25 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,492+00	14,518+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H4	14 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,492+00	14,518+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H5	15 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,492+00	14,518+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Blacktop	H1	0 to 7	GM	15 - 25	15 - 25	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,492+00	14,518+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Blacktop	H2	7 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,492+00	14,518+00	2252	Muni-Alley-Rebel association	Muni	H1	0 to 5	SC-SM	--	--	80 - 90	60 - 75	50 - 65	25 - 35	20 - 25	5 - 10	14 - 42	6.6 - 7.3	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
BC3	14,492+00	14,518+00	2252	Muni-Alley-Rebel association	Muni	H2	5 to 14	CL	--	--	90 - 100	85 - 95	70 - 80	50 - 60	30 - 40	10 - 20	1 - 4	6.6 - 7.8	--	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
BC3	14,492+00	14,518+00	2252	Muni-Alley-Rebel association	Muni	H3	14 to 29		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
BC3	14,492+00	14,518+00	2252	Muni-Alley-Rebel association	Muni	H4	29 to 60	GM	--	10	50 - 65	35 - 55	20 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
BC3	14,492+00	14,518+00	2252	Muni-Alley-Rebel association	Alley	H1	0 to 6	SM	--	5	75 - 85	65 - 75	40 - 50	20 - 30	-	--	14 - 42	6.6 - 7.8	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
BC3	14,492+00	14,518+00	2252	Muni-Alley-Rebel association	Alley	H2	6 to 16	SC	--	10	65 - 80	55 - 75	50 - 65	35 - 50	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
BC3	14,492+00	14,518+00	2252	Muni-Alley-Rebel association	Alley	H3	16 to 60	GC-GM	--	10	60 - 70	50 - 60	35 - 45	25 - 35	20 - 30	0 - 10	1 - 4	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
BC3	14,492+00	14,518+00	2252	Muni-Alley-Rebel association	Rebel	H1	0 to 9	ML	--	--	100 - 100	90 - 100	80 - 100	50 - 80	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
BC3	14,492+00	14,518+00	2252	Muni-Alley-Rebel association	Rebel	H2	9 to 60	ML	--	--	100 - 100	85 - 95	70 - 80	50 - 60	20 - 30	0 - 5	14 - 42	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To							>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
BC3	14,518+00	14,525+00	2511	FUEGOSTA-WARDENOT-IZO ASSOCIATION	Fuegosta	H1	0 to 4	SM	--	5	65 - 80	60 - 75	50 - 70	25 - 40	15 - 25	0 - 5	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,518+00	14,525+00	2511	FUEGOSTA-WARDENOT-IZO ASSOCIATION	Fuegosta	H2	4 to 14	SC	--	5	60 - 75	55 - 70	40 - 60	30 - 55	45 - 55	20 - 30	0 - 1	7.9 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,518+00	14,525+00	2511	FUEGOSTA-WARDENOT-IZO ASSOCIATION	Fuegosta	H3	14 to 18	GM	--	5	30 - 55	25 - 50	20 - 45	10 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,518+00	14,525+00	2511	FUEGOSTA-WARDENOT-IZO ASSOCIATION	Fuegosta	H4	18 to 26		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,518+00	14,525+00	2511	FUEGOSTA-WARDENOT-IZO ASSOCIATION	Fuegosta	H5	26 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,518+00	14,525+00	2511	FUEGOSTA-WARDENOT-IZO ASSOCIATION	Wardenot	H1	0 to 5	SM	--	--	60 - 80	50 - 75	40 - 60	20 - 40	20 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
BC3	14,518+00	14,525+00	2511	FUEGOSTA-WARDENOT-IZO ASSOCIATION	Wardenot	H2	5 to 60	GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
BC3	14,518+00	14,525+00	2511	FUEGOSTA-WARDENOT-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
BC3	14,518+00	14,525+00	2511	FUEGOSTA-WARDENOT-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H1	0 to 3	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H2	3 to 9	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H3	9 to 14	GW-GM	5	25 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H4	14 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H5	15 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Pintwater	H1	0 to 3	GM	5	10 - 30	45 - 75	40 - 65	30 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Pintwater	H3	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,525+00	14,604+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Pintwater	H2	3 to 11	GM	5 - 15	30 - 45	35 - 60	30 - 50	15 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,604+00	14,673+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H1	0 to 3	GM	--	10	35 - 60	25 - 55	20 - 45	10 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
BC3	14,604+00	14,673+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H2	3 to 10	SM	--	5	65 - 75	55 - 65	35 - 45	20 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
BC3	14,604+00	14,673+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H3	10 to 21	GM	--	10	30 - 65	25 - 55	15 - 40	5 - 20	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
BC3	14,604+00	14,673+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H4	21 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
BC3	14,604+00	14,673+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H5	24 to 28		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
BC3	14,604+00	14,673+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
BC3	14,604+00	14,673+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H1	0 to 3	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H2	3 to 9	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H3	9 to 14	GW-GM	5	25 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H4	14 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H5	15 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Pintwater	H1	0 to 3	GM	5	10 - 30	45 - 75	40 - 65	30 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Pintwater	H3	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,673+00	14,681+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Pintwater	H2	3 to 11	GM	5 - 15	30 - 45	35 - 60	30 - 50	15 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,681+00	14,692+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H1	0 to 6	GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,681+00	14,692+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,681+00	14,692+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H1	0 to 4	SM	--	5	60 - 80	50 - 75	40 - 60	15 - 35	14	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,681+00	14,692+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H2	4 to 28	GM	5	10	35 - 55	30 - 50	15 - 35	10 - 20	14	--	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,681+00	14,692+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H3	28 to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,681+00	14,692+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H4	44 to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	14	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,681+00	14,692+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H5	52 to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,681+00	14,692+00	2230	Rotinom-Wholan association	Rotinom	H1	0 to 8	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	30 - 40	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,681+00	14,692+00	2230	Rotinom-Wholan association	Rotinom	H2	8 to 60	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	35 - 45	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties: >10 inches (Percent Retained)	Engineering Index Properties: 3 to10 inches (Percent Retained)	Engineering Index Properties: #4 Sieve (Percent Passing)	Engineering Index Properties: #10 Sieve (Percent Passing)	Engineering Index Properties: #40 Sieve (Percent Passing)	Engineering Index Properties: #200 Sieve (Percent Passing)	Engineering Index Properties: Liquid Limit (Percent)	Engineering Index Properties: Plasticity Index (Percent)	Physical and Chemical Properties: Saturated Hydraulic Conductivity (µM/sec)	Physical and Chemical Properties: Reaction (pH)	Physical and Chemical Properties: Salinity (electrical conductivity) (µmhos/cm)	Physical and Chemical Properties: Linear Extensibility (shrink-swell) (Percent)	Soil Rock and Water Features: Depth to Water Table (inches)	Soil Rock and Water Features: Depth to Bedrock (inches)	Soil Rock and Water Features: Bedrock Hardness	Soil Rock and Water Features: Frost Action	Risk of Corrosion: Concrete	Risk of Corrosion: Uncoated Steel	Site Development: Excavation Difficulty	Site Development: Local Roads and Streets	Material Source: Sand	Material Source: Gravel
BC3	14,681+00	14,692+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,681+00	14,692+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,681+00	14,692+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,681+00	14,692+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H1	0 to 3	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H2	3 to 9	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H3	9 to 14	GW-GM	5	25 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H4	14 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Tokoper	H5	15 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Pintwater	H1	0 to 3	GM	5	10 - 30	45 - 75	40 - 65	30 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Pintwater	H3	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,692+00	14,709+00	2251	TOKOPER-DOWNEYVILLE-PINTWATER ASSOCIATION	Pintwater	H2	3 to 11	GM	5 - 15	30 - 45	35 - 60	30 - 50	15 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,709+00	14,750+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H1	0 to 6	GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,709+00	14,750+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,709+00	14,750+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H1	0 to 4	SM	--	5	60 - 80	50 - 75	40 - 60	15 - 35	14	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,709+00	14,750+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H2	4 to 28	GM	5	10	35 - 55	30 - 50	15 - 35	10 - 20	14	--	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,709+00	14,750+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H3	28 to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,709+00	14,750+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H4	44 to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	14	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,709+00	14,750+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H5	52 to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
BC3	14,709+00	14,750+00	2230	Rotinom-Wholan association	Rotinom	H1	0 to 8	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	30 - 40	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,709+00	14,750+00	2230	Rotinom-Wholan association	Rotinom	H2	8 to 60	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	35 - 45	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,709+00	14,750+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,709+00	14,750+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,709+00	14,750+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,709+00	14,750+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
BC3	14,750+00	14,890+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
Caliente																														
Caliente	1,000+00	1,025+00	VM	Veet-Mosida association	Veet	H1	0 to 3	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,000+00	1,025+00	VM	Veet-Mosida association	Veet	H2	3 to 19	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,000+00	1,025+00	VM	Veet-Mosida association	Veet	H3	19 to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,000+00	1,025+00	VM	Veet-Mosida association	Mosida	H1	0 to 8	CL-ML	--	--	100 - 100	100 - 100	75 - 90	60 - 75	25 - 30	5 - 10	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Caliente	1,000+00	1,025+00	VM	Veet-Mosida association	Mosida	H2	8 to 60	CL-ML	--	--	100 - 100	80 - 100	60 - 85	55 - 75	15 - 30	0 - 10	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Caliente	1,000+00	1,025+00	VM	Veet-Mosida association	Typic Haplaquolls	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	--	--	--	High	Low	Moderate	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,000+00	1,025+00	VM	Veet-Mosida association	Typic Haplaquolls	H2	26 to 38	CL	--	--	100 - 100	90 - 100	80 - 90	65 - 80	30 - 40	10 - 20	1 - 4	6.1 - 7.3	--	3.0 - 5.9	--	--	--	High	Low	Moderate	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,000+00	1,025+00	VM	Veet-Mosida association	Typic Haplaquolls	H3	38 to 60	SM	5	15 - 20	70 - 85	65 - 80	35 - 50	15 - 25	-	--	14 - 42	6.6 - 7.3	--	0.0 - 2.9	--	--	--	High	Low	Moderate	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,025+00	1,050+00	ZR	Zoate-Rock outcrop association	Zoate	H1	0 to 2	CL	1	15 - 30	70 - 95	65 - 90	50 - 75	35 - 55	25 - 35	5 - 15	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,025+00	1,050+00	ZR	Zoate-Rock outcrop association	Zoate	H2	2 to 13	GC	1	5	50 - 60	35 - 50	25 - 45	20 - 35	40 - 50	15 - 25	0 - 1	7.4 - 7.8	--	3.0 - 5.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,025+00	1,050+00	ZR	Zoate-Rock outcrop association	Zoate	H3	13 to 14		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,025+00	1,050+00	ZR	Zoate-Rock outcrop association	Zoate	H4	14 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,025+00	1,050+00	ZR	Zoate-Rock outcrop association	Zoate	H1	0 to 2	SC-SM	1	15 - 30	70 - 95	65 - 90	50 - 75	35 - 55	25 - 35	5 - 15	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,025+00	1,050+00	ZR	Zoate-Rock outcrop association	Zoate	H2	2 to 13	GC	1	5	50 - 60	35 - 50	25 - 45	20 - 35	40 - 50	15 - 25	0 - 1	7.4 - 7.8	--	3.0 - 5.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,025+00	1,050+00	ZR	Zoate-Rock outcrop association	Zoate	H3	13 to 14		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,025+00	1,050+00	ZR	Zoate-Rock outcrop association	Zoate	H4	14 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,050+00	1,065+00	Pg	Pahranagat silty clay loam, drainec	Pahranagat	H1	0 to 15	CL	--	--	100 - 100	100 - 100	95 - 100	80 - 90	40 - 50	15 - 20	1 - 4	7.9 - 9.0	4 - 8	3.0 - 5.9	48	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,050+00	1,065+00	Pg	Pahranagat silty clay loam, drainec	Pahranagat	H2	15 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 50	10 - 20	1 - 4	7.9 - 9.0	2 - 8	3.0 - 5.9	48	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,050+00	1,065+00	Pg	PAHRANAGAT-ASH SPRINGS COMPLEX, SEEPED	PAHRANAGAT	H1	0 to 6	ML	--	--	100 - 100	100 - 100	95 - 100	80 - 90	35 - 40	10 - 15	4 - 14	7.9 - 9.0	4 - 8	3.0 - 5.9	6	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,050+00	1,065+00	Pg	PAHRANAGAT-ASH SPRINGS COMPLEX, SEEPED	PAHRANAGAT	H2	6 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 50	10 - 20	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	6	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,050+00	1,065+00	Pg	PAHRANAGAT-ASH SPRINGS COMPLEX, SEEPED	ASH SPRINGS	H1	0 to 10	ML	--	--	100 - 100	95 - 100	85 - 95	70 - 90	15 - 25	0 - 5	4 - 14	7.9 - 9.6	4 - 8	0.0 - 2.9	6	--	--	High	Low	High	--	Very limited	Poor	Poor
Caliente	1,050+00	1,065+00	Pg	PAHRANAGAT-ASH SPRINGS COMPLEX, SEEPED	ASH SPRINGS	H2	10 to 36	ML	--	--	80 - 100	75 - 90	60 - 85	50 - 60	15 - 25	0 - 5	1 - 4	7.9 - 9.6	0 - 4	0.0 - 2.9	6	--	--	High	Low	High	--	Very limited	Poor	Poor
Caliente	1,050+00	1,065+00	Pg	PAHRANAGAT-ASH SPRINGS COMPLEX, SEEPED	ASH SPRINGS	H3	36 to 60	ML	--	--	80 - 100	75 - 90	60 - 85	50 - 60	15 - 25	0 - 5	1 - 4	7.9 - 9.6	0 - 4	0.0 - 2.9	6	--	--	High	Low	High	--	Very limited	Poor	Poor
Caliente	1,065+00	1,090+00	RO				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	Inches	Inches								
Caliente	1,090+00	1,113+00	ZR	Zoate-Rock outcrop association	Zoate	H1	0 to 2	CL	1	15 - 30	70 - 95	65 - 90	50 - 75	35 - 55	25 - 35	5 - 15	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,090+00	1,113+00	ZR	Zoate-Rock outcrop association	Zoate	H2	2 to 13	GC	1	5	50 - 60	35 - 50	25 - 45	20 - 35	40 - 50	15 - 25	0 - 1	7.4 - 7.8	--	3.0 - 5.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,090+00	1,113+00	ZR	Zoate-Rock outcrop association	Zoate	H3	13 to 14		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,090+00	1,113+00	ZR	Zoate-Rock outcrop association	Zoate	H4	14 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,090+00	1,113+00	ZR	Zoate-Rock outcrop association	Zoate	H1	0 to 2	SC-SM	1	15 - 30	70 - 95	65 - 90	50 - 75	35 - 55	25 - 35	5 - 15	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,090+00	1,113+00	ZR	Zoate-Rock outcrop association	Zoate	H2	2 to 13	GC	1	5	50 - 60	35 - 50	25 - 45	20 - 35	40 - 50	15 - 25	0 - 1	7.4 - 7.8	--	3.0 - 5.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,090+00	1,113+00	ZR	Zoate-Rock outcrop association	Zoate	H3	13 to 14		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,090+00	1,113+00	ZR	Zoate-Rock outcrop association	Zoate	H4	14 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,113+00	1,125+00	RO				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
Caliente	1,125+00	1,187+00	ZR	Zoate-Rock outcrop association	Zoate	H1	0 to 2	CL	1	15 - 30	70 - 95	65 - 90	50 - 75	35 - 55	25 - 35	5 - 15	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,125+00	1,187+00	ZR	Zoate-Rock outcrop association	Zoate	H2	2 to 13	GC	1	5	50 - 60	35 - 50	25 - 45	20 - 35	40 - 50	15 - 25	0 - 1	7.4 - 7.8	--	3.0 - 5.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,125+00	1,187+00	ZR	Zoate-Rock outcrop association	Zoate	H3	13 to 14		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,125+00	1,187+00	ZR	Zoate-Rock outcrop association	Zoate	H4	14 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,125+00	1,187+00	ZR	Zoate-Rock outcrop association	Zoate	H1	0 to 2	SC-SM	1	15 - 30	70 - 95	65 - 90	50 - 75	35 - 55	25 - 35	5 - 15	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,125+00	1,187+00	ZR	Zoate-Rock outcrop association	Zoate	H2	2 to 13	GC	1	5	50 - 60	35 - 50	25 - 45	20 - 35	40 - 50	15 - 25	0 - 1	7.4 - 7.8	--	3.0 - 5.9	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,125+00	1,187+00	ZR	Zoate-Rock outcrop association	Zoate	H3	13 to 14		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,125+00	1,187+00	ZR	Zoate-Rock outcrop association	Zoate	H4	14 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	14	--	Low	Low	Moderate	--	Very limited	Poor	Poor
Caliente	1,187+00	1,278+00	Gg	Geer silt loam, slightly saline	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 9.6	4 - 8	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,187+00	1,278+00	Gg	Geer silt loam, slightly saline	Geer	H2	14 to 60	SM	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.6	0 - 16	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,278+00	1,295+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,278+00	1,295+00	Gh	Geer silt loam, strongly saline	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,278+00	1,295+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	60	--	--				--	Very limited	Poor	Poor
Caliente	1,278+00	1,295+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	9.1 - 9.6	16 - 32	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,278+00	1,295+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,295+00	1,344+00	Gg	Geer silt loam, slightly saline	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 9.6	4 - 8	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,295+00	1,344+00	Gg	Geer silt loam, slightly saline	Geer	H2	14 to 60	SM	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.6	0 - 16	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,344+00	1,379+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,344+00	1,379+00	Gh	Geer silt loam, strongly saline	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,344+00	1,379+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	60	--	--				--	Very limited	Poor	Poor
Caliente	1,344+00	1,379+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	9.1 - 9.6	16 - 32	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,344+00	1,379+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,379+00	1,447+00	Gg	Geer silt loam, slightly saline	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 9.6	4 - 8	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,379+00	1,447+00	Gg	Geer silt loam, slightly saline	Geer	H2	14 to 60	SM	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.6	0 - 16	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,447+00	1,454+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,447+00	1,454+00	Gh	Geer silt loam, strongly saline	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,447+00	1,454+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	60	--	--				--	Very limited	Poor	Poor
Caliente	1,447+00	1,454+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	9.1 - 9.6	16 - 32	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,447+00	1,454+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,454+00	1,495+00	Pd	Pahranagat silt loam, strongly saline	Pahranagat	H1	0 to 15	CL	--	--	100 - 100	100 - 100	95 - 100	80 - 90	35 - 40	10 - 15	4 - 14	7.9 - 9.0	16 - 32	3.0 - 5.9	24	--	--	High	High	High	--	Very limited	Poor	Poor
Caliente	1,454+00	1,495+00	Pd	Pahranagat silt loam, strongly saline	Pahranagat	H2	15 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 50	10 - 20	1 - 4	7.9 - 9.0	4 - 8	3.0 - 5.9	24	--	--	High	High	High	--	Very limited	Poor	Poor
Caliente	1,454+00	1,495+00	Pd	PAHRANAGAT SILT LOAM, SLIGHTLY SALINE	PAHRANAGAT	H1	0 to 10	CL	--	--	100 - 100	100 - 100	95 - 100	80 - 90	35 - 40	10 - 15	4 - 14	7.9 - 9.0	4 - 8	3.0 - 5.9	27	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,454+00	1,495+00	Pd	PAHRANAGAT SILT LOAM, SLIGHTLY SALINE	PAHRANAGAT	H2	10 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 50	10 - 20	1 - 4	7.9 - 9.0	2 - 4	3.0 - 5.9	27	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	Linco-Badland association	Linco	H1	0 to 8	GM	--	--	60 - 80	50 - 75	35 - 65	20 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	Linco-Badland association	Linco	H2	8 to 25	GM	--	--	60 - 75	50 - 70	35 - 60	25 - 45	15 - 25	0 - 5	4 - 14	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	Linco-Badland association	Linco	H3	25 to 60	GM	--	--	60 - 75	50 - 70	35 - 60	20 - 45	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	Linco-Badland association	Linco	H1	0 to 8	SM	--	--	60 - 80	50 - 75	35 - 65	20 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	Linco-Badland association	Linco	H2	8 to 25	GM	--	--	60 - 75	50 - 70	35 - 60	25 - 45	15 - 25	0 - 5	4 - 14	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	Linco-Badland association	Linco	H3	25 to 60	GM	--	--	60 - 75	50 - 70	35 - 60	20 - 45	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	Linco-Badland association	Badland	H1	0 to 2	MH	5	10	65 - 100	50 - 100	40 - 100	35 - 100	20 - 75	10 - 35	0 -	7.4 - 9.6	0 - 32	6.0 - 8.9	--	--	--	None	High	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	Linco-Badland association	Badland	H2	2 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	None	High	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	LEO-DELAMAR ASSOCIATION	LEO	H1	0 to 8	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,495+00	1,505+00	LD	LEO-DELAMAR ASSOCIATION	LEO	H2	8 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,495+00	1,505+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H1	0 to 4	SM	--	--	95 - 100	85 - 100	45 - 80	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H2	4 to 12	CL	--	5	65 - 100	60 - 90	50 - 80	30 - 55	30 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H3	12 to 20	GC	--	5	60 - 90	55 - 85	40 - 55	30 - 50	35 - 45	15 - 25	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H4	20 to 25	SM	--	--	60 - 80	50 - 75	30 - 50	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,495+00	1,505+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H5	25 to 29		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,505+00	1,515+00	Gk	Geer silt loam, wet	Geer	H1	0 to 4	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	15 - 30	0 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Caliente	1,505+00	1,515+00	Gk	Geer silt loam, wet	Geer	H2	4 to 29	ML	--	--	100 - 100	100 - 100	85 - 95	50 - 65	15 - 30	0 - 10	4 - 14	7.9 - 9.0	4 - 16	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Caliente	1,505+00	1,515+00	Gk	Geer silt loam, wet	Geer	H3	29 to 37	CL-ML	--	--	100 - 100	100 - 100	85 - 95	50 - 65	15 - 30	0 - 10	1 - 4	7.9 - 9.0	4 - 16	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Caliente	1,505+00	1,515+00	Gk	Geer silt loam, wet	Geer	H4	37 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	50 - 65	15 - 30	0 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Caliente	1,505+00	1,515+00	Gk	Geer silt loam, wet	Geer	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	42	--	--				--	Very limited	Poor	Poor
Caliente	1,505+00	1,515+00	Gk	GEER SILT LOAM	GEER	H1	0 to 14	ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To							>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
Caliente	1,505+00	1,515+00	Gk	GEER SILT LOAM	GEER	H2	14 to 60	SM	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,505+00	1,515+00	Gk	GEER SILT LOAM	GEER	H3	60 to 72	CL-ML	--	--	60 - 90	55 - 90	45 - 90	25 - 70	20 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,515+00	1,532+00	Pd	Pahranagat silt loam, strongly saline	Pahranagat	H1	0 to 15	CL	--	--	100 - 100	100 - 100	95 - 100	80 - 90	35 - 40	10 - 15	4 - 14	7.9 - 9.0	16 - 32	3.0 - 5.9	24	--	--	High	High	High	--	Very limited	Poor	Poor
Caliente	1,515+00	1,532+00	Pd	Pahranagat silt loam, strongly saline	Pahranagat	H2	15 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 50	10 - 20	1 - 4	7.9 - 9.0	4 - 8	3.0 - 5.9	24	--	--	High	High	High	--	Very limited	Poor	Poor
Caliente	1,515+00	1,532+00	Pd	PAHRANAGAT SILT LOAM, SLIGHTLY SALINE	PAHRANAGAT	H1	0 to 10	CL	--	--	100 - 100	100 - 100	95 - 100	80 - 90	35 - 40	10 - 15	4 - 14	7.9 - 9.0	4 - 8	3.0 - 5.9	27	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,515+00	1,532+00	Pd	PAHRANAGAT SILT LOAM, SLIGHTLY SALINE	PAHRANAGAT	H2	10 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 50	10 - 20	1 - 4	7.9 - 9.0	2 - 4	3.0 - 5.9	27	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,532+00	1,570+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,532+00	1,570+00	Gh	Geer silt loam, strongly saline	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Caliente	1,532+00	1,570+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	60	--	--				--	Very limited	Poor	Poor
Caliente	1,532+00	1,570+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	9.1 - 9.6	16 - 32	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,532+00	1,570+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Caliente	1,570+00	1,581+00	DH	Deerlodge-Ursine association	Deerlodge	H1	0 to 3	SM	--	--	65 - 80	60 - 75	45 - 65	25 - 40	20 - 25	0 - 5	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,570+00	1,581+00	DH	Deerlodge-Ursine association	Deerlodge	H2	3 to 14	CL	--	--	85 - 100	80 - 100	70 - 90	40 - 70	30 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,570+00	1,581+00	DH	Deerlodge-Ursine association	Deerlodge	H3	14 to 23	GC	--	--	60 - 80	55 - 75	45 - 70	25 - 40	30 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,570+00	1,581+00	DH	Deerlodge-Ursine association	Deerlodge	H4	23 to 27		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Caliente	1,570+00	1,581+00	DH	Deerlodge-Ursine association	Ursine	H1	0 to 2	CL-ML	--	5	80 - 90	65 - 75	60 - 70	40 - 55	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Caliente	1,570+00	1,581+00	DH	Deerlodge-Ursine association	Ursine	H2	2 to 8	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Caliente	1,570+00	1,581+00	DH	Deerlodge-Ursine association	Ursine	H3	8 to 16	GC	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Caliente	1,570+00	1,581+00	DH	Deerlodge-Ursine association	Ursine	H4	16 to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Common Segment 1																														
CS1	1,581+00	1,590+00	DH	Deerlodge-Ursine association	Deerlodge	H1	0 to 3	SM	--	--	65 - 80	60 - 75	45 - 65	25 - 40	20 - 25	0 - 5	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,581+00	1,590+00	DH	Deerlodge-Ursine association	Deerlodge	H2	3 to 14	CL	--	--	85 - 100	80 - 100	70 - 90	40 - 70	30 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,581+00	1,590+00	DH	Deerlodge-Ursine association	Deerlodge	H3	14 to 23	GC	--	--	60 - 80	55 - 75	45 - 70	25 - 40	30 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,581+00	1,590+00	DH	Deerlodge-Ursine association	Deerlodge	H4	23 to 27		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,581+00	1,590+00	DH	Deerlodge-Ursine association	Ursine	H1	0 to 2	CL-ML	--	5	80 - 90	65 - 75	60 - 70	40 - 55	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,581+00	1,590+00	DH	Deerlodge-Ursine association	Ursine	H2	2 to 8	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,581+00	1,590+00	DH	Deerlodge-Ursine association	Ursine	H3	8 to 16	GC	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,581+00	1,590+00	DH	Deerlodge-Ursine association	Ursine	H4	16 to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,590+00	1,620+00	HDC	Heist gravelly sandy loam, 0 to 8 percent slopes	Heist	H1	0 to 4	GC-GM	--	--	55 - 85	50 - 80	35 - 55	20 - 30	20 - 30	0 - 10	14 - 42	6.6 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
CS1	1,590+00	1,620+00	HDC	Heist gravelly sandy loam, 0 to 8 percent slopes	Heist	H2	4 to 60	SC-SM	--	--	55 - 95	50 - 90	35 - 65	20 - 35	20 - 30	0 - 10	14 - 42	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
CS1	1,620+00	1,660+00	DH	Deerlodge-Ursine association	Deerlodge	H1	0 to 3	SM	--	--	65 - 80	60 - 75	45 - 65	25 - 40	20 - 25	0 - 5	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,620+00	1,660+00	DH	Deerlodge-Ursine association	Deerlodge	H2	3 to 14	CL	--	--	85 - 100	80 - 100	70 - 90	40 - 70	30 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,620+00	1,660+00	DH	Deerlodge-Ursine association	Deerlodge	H3	14 to 23	GC	--	--	60 - 80	55 - 75	45 - 70	25 - 40	30 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,620+00	1,660+00	DH	Deerlodge-Ursine association	Deerlodge	H4	23 to 27		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,620+00	1,660+00	DH	Deerlodge-Ursine association	Ursine	H1	0 to 2	CL-ML	--	5	80 - 90	65 - 75	60 - 70	40 - 55	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,620+00	1,660+00	DH	Deerlodge-Ursine association	Ursine	H2	2 to 8	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,620+00	1,660+00	DH	Deerlodge-Ursine association	Ursine	H3	8 to 16	GC	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,620+00	1,660+00	DH	Deerlodge-Ursine association	Ursine	H4	16 to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,660+00	1,768+00	BA	Badland	Badland	H1	0 to 2	CH	5	10	65 - 100	50 - 100	40 - 100	35 - 100	20 - 75	10 - 35	0 -	7.4 - 9.6	0 - 32	6.0 - 8.9	--	--	--	None	High	High	--	Not rated	Poor	Poor
CS1	1,660+00	1,768+00	BA	Badland	Badland	H2	2 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	None	High	High	--	Not rated	Poor	Poor
CS1	1,660+00	1,768+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H1	0 to 10	SM	--	--	100 - 100	100 - 100	70 - 80	30 - 55	20 - 25	0 - 5	4 - 14	8.5 - 9.6	16 - 32	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
CS1	1,660+00	1,768+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H2	10 to 50	CL	--	--	100 - 100	100 - 100	75 - 95	50 - 75	25 - 35	10 - 15	1 - 4	8.5 - 9.6	4 - 32	3.0 - 5.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
CS1	1,660+00	1,768+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H3	50 to 60	CL-ML	--	--	100 - 100	100 - 100	70 - 80	30 - 55	25 - 30	5 - 10	4 - 14	8.5 - 9.6	4 - 8	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Ursine	H1	0 to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Ursine	H2	3 to 10	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Ursine	H3	10 to 16	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Ursine	H4	16 to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Ursine	H1	0 to 3	GC-GM	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Ursine	H2	3 to 10	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Ursine	H3	10 to 16	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Ursine	H4	16 to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Geer	H1	0 to 6	SM	--	--	100 - 100	95 - 100	85 - 95	40 - 65	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS1	1,768+00	1,779+00	UG	Ursine-Geer association	Geer	H2	6 to 60	SM	--	--	85 - 100	85 - 100	80 - 95	40 - 75	15 - 25	0 - 5	4 - 14	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS1	1,779+00	1,838+00	US	Ursine-Badland association	Ursine	H1	0 to 2	SC-SM	--	5	80 - 90	65 - 75	60 - 70	40 - 55	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	Indurated	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,779+00	1,838+00	US	Ursine-Badland association	Ursine	H2	2 to 8	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	Indurated	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,779+00	1,838+00	US	Ursine-Badland association	Ursine	H3	8 to 16	GC	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	Indurated	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,779+00	1,838+00	US	Ursine-Badland association	Ursine	H4	16 to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	Indurated	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,779+00	1,838+00	US	Ursine-Badland association	Badland	H1	0 to 2	GC	5	10	65 - 100	50 - 100	40 - 100	35 - 100	20 - 75	10 - 35	0 -	7.4 - 9.6	0 - 32	6.0 - 8.9	--	--	--	None	High	High	--	Somewhat limited	Poor	Poor
CS1	1,779+00	1,838+00	US	Ursine-Badland association	Badland	H2	2 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	None	High	High	--	Somewhat limited	Poor	Poor
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Ursine	H1	0 to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Ursine	H2	3 to 10	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Ursine	H3	10 to 16	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Ursine	H4	16 to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Ursine	H1	0 to 3	GC-GM	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Ursine	H2	3 to 10	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, Inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
										>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
										Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Ursine	H3	10	to 16	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Ursine	H4	16	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Geer	H1	0	to 6	SM	--	--	100 - 100	95 - 100	85 - 95	40 - 65	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS1	1,838+00	1,850+00	UG	Ursine-Geer association	Geer	H2	6	to 60	SM	--	--	85 - 100	85 - 100	80 - 95	40 - 75	15 - 25	0 - 5	4 - 14	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS1	1,850+00	1,872+00	DH	Deerlodge-Ursine association	Deerlodge	H1	0	to 3	SM	--	--	65 - 80	60 - 75	45 - 65	25 - 40	20 - 25	0 - 5	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,850+00	1,872+00	DH	Deerlodge-Ursine association	Deerlodge	H2	3	to 14	CL	--	--	85 - 100	80 - 100	70 - 90	40 - 70	30 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,850+00	1,872+00	DH	Deerlodge-Ursine association	Deerlodge	H3	14	to 23	GC	--	--	60 - 80	55 - 75	45 - 70	25 - 40	30 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,850+00	1,872+00	DH	Deerlodge-Ursine association	Deerlodge	H4	23	to 27		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	1,850+00	1,872+00	DH	Deerlodge-Ursine association	Ursine	H1	0	to 2	CL-ML	--	5	80 - 90	65 - 75	60 - 70	40 - 55	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,850+00	1,872+00	DH	Deerlodge-Ursine association	Ursine	H2	2	to 8	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,850+00	1,872+00	DH	Deerlodge-Ursine association	Ursine	H3	8	to 16	GC	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,850+00	1,872+00	DH	Deerlodge-Ursine association	Ursine	H4	16	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Ursine	H1	0	to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Ursine	H2	3	to 10	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Ursine	H3	10	to 16	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Ursine	H4	16	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Ursine	H1	0	to 3	GC-GM	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Ursine	H2	3	to 10	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Ursine	H3	10	to 16	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Ursine	H4	16	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Geer	H1	0	to 6	SM	--	--	100 - 100	95 - 100	85 - 95	40 - 65	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS1	1,872+00	1,936+00	UG	Ursine-Geer association	Geer	H2	6	to 60	SM	--	--	85 - 100	85 - 100	80 - 95	40 - 75	15 - 25	0 - 5	4 - 14	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS1	1,936+00	1,976+00	UR	Ursine association	Ursine	H1	0	to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,936+00	1,976+00	UR	Ursine association	Ursine	H2	3	to 10	SC-SM	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,936+00	1,976+00	UR	Ursine association	Ursine	H3	10	to 16	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,936+00	1,976+00	UR	Ursine association	Ursine	H4	16	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,936+00	1,976+00	UR	Ursine association	Ursine	H1	0	to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,936+00	1,976+00	UR	Ursine association	Ursine	H2	3	to 10	CL	--	5	70 - 95	60 - 90	55 - 80	40 - 60	20 - 35	5 - 15	4 - 14	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,936+00	1,976+00	UR	Ursine association	Ursine	H3	10	to 16	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,936+00	1,976+00	UR	Ursine association	Ursine	H4	16	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
CS1	1,976+00	4,043+00	No Data					to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Ursine	H1	0	to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Ursine	H2	3	to 19	GC	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Ursine	H3	19	to 23		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Veet	H1	0	to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Armespan	H1	0	to 1	GM	--	10	45 - 60	30 - 50	20 - 40	10 - 25	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Armespan	H2	1	to 7	SM	--	5	80 - 95	65 - 90	45 - 65	20 - 35	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Armespan	H3	7	to 18	GM	--	10	55 - 85	50 - 75	35 - 60	25 - 45	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Armespan	H4	18	to 28	GM	--	10	40 - 60	35 - 50	20 - 40	10 - 25	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,043+00	4,410+00	3310	Ursine-Veet-Armespan association	Armespan	H5	28	to 60	SW-SM	--	10	30 - 60	25 - 50	10 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Breko	H1	0	to 5	CL	--	25 - 50	50 - 100	45 - 100	40 - 85	35 - 55	25 - 35	10 - 20	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Breko	H2	5	to 25	GC	--	25 - 65	35 - 70	30 - 65	25 - 55	15 - 50	35 - 45	15 - 25	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Breko	H3	25	to 34	GM	--	25 - 45	50 - 70	45 - 65	30 - 50	20 - 30	15 - 25	0 - 5	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Breko	H4	34	to 60	GM	--	10	40 - 60	25 - 50	15 - 25	5 - 15	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Veet	H1	0	to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Handpah	H1	0	to 7	GM	--	10	60 - 85	50 - 75	40 - 65	25 - 35	15 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Handpah	H2	7	to 14	GC	--	10	60 - 85	60 - 75	50 - 60	40 - 50	35 - 40	15 - 20	0 - 1	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Handpah	H3	14	to 18	GM	5	10 - 25	40 - 55	25 - 45	20 - 30	5 - 15	-	--	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Handpah	H4	18	to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,410+00	4,430+00	3080	Breko-Veet-Handpah association	Handpah	H5	24	to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Ursine	H1	0	to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Ursine	H2	3	to 19	GC	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Ursine	H3	19	to 23		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Veet	H1	0	to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Armespan	H1	0	to 1	GM	--	10	45 - 60	30 - 50	20 - 40	10 - 25	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Armespan	H2	1	to 7	SM	--	5	80 - 95	65 - 90	45 - 65	20 - 35	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Armespan	H3	7	to 18	GM	--	10	55 - 85	50 - 75	35 - 60	25 - 45	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Armespan	H4	18	to 28	GM	--	10	40 - 60	35 - 50	20 - 40	10 - 25	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,430+00	4,462+00	3310	Ursine-Veet-Armespan association	Armespan	H5	28	to 60	SW-SM	--	10	30 - 60	25 - 50	10 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Breko	H1	0	to 5	CL	--	25 - 50	50 - 100	45 - 100	40 - 85	35 - 55	25 - 35	10 - 20	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Breko	H2	5	to 25	GC	--	25 - 65	35 - 70	30 - 65	25 - 55	15 - 50	35 - 45	15 - 25	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Breko	H3	25	to 34	GM	--	25 - 45	50 - 70	45 - 65	30 - 50	20 - 30	15 - 25	0 - 5	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Breko	H4	34	to 60	GM	--	10	40 - 60	25 - 50	15 - 25	5 - 15	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Veet	H1	0	to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Handpah	H1	0 to 7	GM	--	10	60 - 85	50 - 75	40 - 65	25 - 35	15 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Handpah	H2	7 to 14	GC	--	10	60 - 85	60 - 75	50 - 60	40 - 50	35 - 40	15 - 20	0 - 1	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Handpah	H3	14 to 18	GM	5	10 - 25	40 - 55	25 - 45	20 - 30	5 - 15	-	--	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Handpah	H4	18 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,462+00	4,497+00	3080	Breko-Veet-Handpah association	Handpah	H5	24 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Ursine	H1	0 to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Ursine	H2	3 to 19	GC	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Ursine	H3	19 to 23		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Veet	H1	0 to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Veet	H2	4 to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Veet	H3	12 to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Armespan	H1	0 to 1	GM	--	10	45 - 60	30 - 50	20 - 40	10 - 25	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Armespan	H2	1 to 7	SM	--	5	80 - 95	65 - 90	45 - 65	20 - 35	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Armespan	H3	7 to 18	GM	--	10	55 - 85	50 - 75	35 - 60	25 - 45	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Armespan	H4	18 to 28	GM	--	10	40 - 60	35 - 50	20 - 40	10 - 25	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,497+00	4,672+00	3310	Ursine-Veet-Armespan association	Armespan	H5	28 to 60	SW-SM	--	10	30 - 60	25 - 50	10 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,672+00	4,938+00	3302	RUMPAH CLAY	Rumpah	H1	0 to 3	CH	--	--	100 - 100	100 - 100	95 - 100	80 - 95	45 - 65	20 - 30	0 - 1	7.9 - 9.0	0 - 4	6.0 - 8.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	4,672+00	4,938+00	3302	RUMPAH CLAY	Rumpah	H2	3 to 54	CH	--	--	100 - 100	100 - 100	95 - 100	80 - 95	50 - 70	25 - 35	0 -	7.9 - 9.0	2 - 16	6.0 - 8.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	4,672+00	4,938+00	3302	RUMPAH CLAY	Rumpah	H3	54 to 60	CH	--	--	100 - 100	100 - 100	95 - 100	80 - 95	45 - 70	20 - 35	0 -	8.5 - 9.0	2 - 4	6.0 - 8.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	4,672+00	4,938+00	3302	Palinor-Parisa association	Palinor	H1	0 to 3	GM	--	10	30 - 50	25 - 50	25 - 45	20 - 35	20 - 25	0 - 5	4 - 14	7.9 - 9.0	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,672+00	4,938+00	3302	Palinor-Parisa association	Palinor	H2	3 to 18	GM	--	10	20 - 45	15 - 40	10 - 35	10 - 30	20 - 25	0 - 5	4 - 14	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,672+00	4,938+00	3302	Palinor-Parisa association	Palinor	H3	18 to 29		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,672+00	4,938+00	3302	Palinor-Parisa association	Parisa	H1	0 to 4	GM	--	10	60 - 85	50 - 75	40 - 65	30 - 50	20 - 30	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,672+00	4,938+00	3302	Palinor-Parisa association	Parisa	H2	4 to 32	GM	--	10	35 - 60	25 - 50	20 - 40	15 - 35	20 - 30	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,672+00	4,938+00	3302	Palinor-Parisa association	Parisa	H3	32 to 50		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,672+00	4,938+00	3302	Palinor-Parisa association	Parisa	H4	50 to 60	GW	--	15	15 - 35	10 - 25	5 - 15	10	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,672+00	4,938+00	3302	Palinor-Parisa association	Palinor	H4	29 to 60	GM	--	30	30 - 50	20 - 45	15 - 35	10 - 30	-	--	42 - 141	7.9 - 9.0	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,938+00	4,953+00	3220	Stewval-Beelem association	Stewval	H1	0 to 1	GC-GM	5 - 15	15 - 25	45 - 60	40 - 55	30 - 45	10 - 25	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	5	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS1	4,938+00	4,953+00	3220	Stewval-Beelem association	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	5	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS1	4,938+00	4,953+00	3220	Stewval-Beelem association	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	5	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS1	4,938+00	4,953+00	3220	Stewval-Beelem association	Beelem	H1	0 to 2	SM	--	15 - 40	85 - 95	80 - 90	45 - 55	25 - 35	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	5	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
CS1	4,938+00	4,953+00	3220	Stewval-Beelem association	Beelem	H2	2 to 5	SM	--	10	80 - 90	55 - 75	40 - 50	25 - 35	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	5	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
CS1	4,938+00	4,953+00	3220	Stewval-Beelem association	Beelem	H3	5 to 9		-	-	-	-	-	-	-	-	0.01	-	-	-	--	5	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
CS1	4,953+00	5,010+00	3302	RUMPAH CLAY	Rumpah	H1	0 to 3	CH	--	--	100 - 100	100 - 100	95 - 100	80 - 95	45 - 65	20 - 30	0 - 1	7.9 - 9.0	0 - 4	6.0 - 8.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	4,953+00	5,010+00	3302	RUMPAH CLAY	Rumpah	H2	3 to 54	CH	--	--	100 - 100	100 - 100	95 - 100	80 - 95	50 - 70	25 - 35	0 -	7.9 - 9.0	2 - 16	6.0 - 8.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	4,953+00	5,010+00	3302	RUMPAH CLAY	Rumpah	H3	54 to 60	CH	--	--	100 - 100	100 - 100	95 - 100	80 - 95	45 - 70	20 - 35	0 -	8.5 - 9.0	2 - 4	6.0 - 8.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	4,953+00	5,010+00	3302	Palinor-Parisa association	Palinor	H1	0 to 3	GM	--	10	30 - 50	25 - 50	25 - 45	20 - 35	20 - 25	0 - 5	4 - 14	7.9 - 9.0	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,953+00	5,010+00	3302	Palinor-Parisa association	Palinor	H2	3 to 18	GM	--	10	20 - 45	15 - 40	10 - 35	10 - 30	20 - 25	0 - 5	4 - 14	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,953+00	5,010+00	3302	Palinor-Parisa association	Palinor	H3	18 to 29		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,953+00	5,010+00	3302	Palinor-Parisa association	Parisa	H1	0 to 4	GM	--	10	60 - 85	50 - 75	40 - 65	30 - 50	20 - 30	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,953+00	5,010+00	3302	Palinor-Parisa association	Parisa	H2	4 to 32	GM	--	10	35 - 60	25 - 50	20 - 40	15 - 35	20 - 30	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,953+00	5,010+00	3302	Palinor-Parisa association	Parisa	H3	32 to 50		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,953+00	5,010+00	3302	Palinor-Parisa association	Parisa	H4	50 to 60	GW	--	15	15 - 35	10 - 25	5 - 15	10	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	4,953+00	5,010+00	3302	Palinor-Parisa association	Palinor	H4	29 to 60	GM	--	30	30 - 50	20 - 45	15 - 35	10 - 30	-	--	42 - 141	7.9 - 9.0	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	5,010+00	5,090+00	3311	Ursine-Cliffdown association	Ursine	H1	0 to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	5,010+00	5,090+00	3311	Ursine-Cliffdown association	Ursine	H2	3 to 19	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	5,010+00	5,090+00	3311	Ursine-Cliffdown association	Ursine	H3	19 to 23		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	5,010+00	5,090+00	3311	Ursine-Cliffdown association	Cliffdown	H1	0 to 3	GM	--	5	30 - 55	25 - 50	20 - 35	10 - 30	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,010+00	5,090+00	3311	Ursine-Cliffdown association	Cliffdown	H2	3 to 60	GM	--	5	45 - 55	40 - 50	30 - 40	15 - 30	14	--	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,090+00	5,100+00	3311	Ursine-Cliffdown association	Ursine	H1	0 to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	5,090+00	5,100+00	3311	Ursine-Cliffdown association	Ursine	H2	3 to 19	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	5,090+00	5,100+00	3311	Ursine-Cliffdown association	Ursine	H3	19 to 23		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
CS1	5,090+00	5,100+00	3311	Ursine-Cliffdown association	Cliffdown	H1	0 to 3	GM	--	5	30 - 55	25 - 50	20 - 35	10 - 30	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,090+00	5,100+00	3311	Ursine-Cliffdown association	Cliffdown	H2	3 to 60	GM	--	5	45 - 55	40 - 50	30 - 40	15 - 30	14	--	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,100+00	5,148+00	3756	Koyen-Lyx association	Koyen	H1	0 to 4	SM	--	--	90 - 95	85 - 95	50 - 75	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS1	5,100+00	5,148+00	3756	Koyen-Lyx association	Koyen	H3	35 to 60	GP-GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS1	5,100+00	5,148+00	3756	Koyen-Lyx association	Lyx	H1	0 to 3	GM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS1	5,100+00	5,148+00	3756	Koyen-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS1	5,100+00	5,148+00	3756	Koyen-Lyx association	Koyen	H2	4 to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS1	5,100+00	5,148+00	3756	Koyen-Lyx association	Lyx	H3	11 to 60	GP-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS1	5,148+00	5,192+00	3233	Geer-Koyen association	Geer	H1	0 to 6	SM	--	--	100 - 100	100 - 100	85 - 95	40 - 65	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS1	5,148+00	5,192+00	3233	Geer-Koyen association	Koyen	H1	0 to 4	SM	--	--	90 - 95	85 - 95	50 - 75	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	5,148+00	5,192+00	3233	Geer-Koyen association	Koyen	H3	35 to 60	GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	5,148+00	5,192+00	3233	Geer-Koyen association	Geer	H2	6 to 60	ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS1	5,148+00	5,192+00	3233	Geer-Koyen association	Koyen	H2	4 to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	5,192+00	5,210+00	3491	Slaw-Easychair association	Slaw	H1	0 to 9	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 90	15 - 25	5 - 10	4 - 14	8.5 - 9.6	8 - 16	0.0 - 2.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	5,192+00	5,210+00	3491	Slaw-Easychair association	Easychair	H1	0 to 9	CL	--	--	100 - 100	100 - 100	90 - 100	80 - 90	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS1	5,192+00	5,210+00	3491	Slaw-Easychair association	Easychair	H2	9 to 46	CL	--	--	100 - 100	90 - 100	90 - 100	80 - 90	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS1	5,192+00	5,210+00	3491	Slaw-Easychair association	Easychair	H3	46 to 60	SM	--	--	100 - 100	90 - 100	60 - 70	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS1	5,192+00	5,210+00	3491	Slaw-Easychair association	Slaw	H2	9 to 60	CL	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 45	10 - 20	0 - 1	8.5 - 9.6	16 - 32	3.0 - 5.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	5,210+00	5,254+00	3491	Slaw-Easychair association	Slaw	H1	0 to 9	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 90	15 - 25	5 - 10	4 - 14	8.5 - 9.6	8 - 16	0.0 - 2.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	5,210+00	5,254+00	3491	Slaw-Easychair association	Easychair	H1	0 to 9	CL	--	--	100 - 100	100 - 100	90 - 100	80 - 90	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent		µM/sec	pH	µmhos/cm	Percent	inches	inches								
CS1	5,210+00	5,254+00	3491	Slaw-Easychair association	Easychair	H2	9 to 46	CL	--	--	100 - 100	90 - 100	90 - 100	80 - 90	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS1	5,210+00	5,254+00	3491	Slaw-Easychair association	Easychair	H3	46 to 60	SM	--	--	100 - 100	90 - 100	60 - 70	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS1	5,210+00	5,254+00	3491	Slaw-Easychair association	Slaw	H2	9 to 60	CL	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 45	10 - 20	0 - 1	8.5 - 9.6	16 - 32	3.0 - 5.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
CS1	5,254+00	5,280+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H1	0 to 3	ML	--	--	100 - 100	100 - 100	95 - 100	55 - 70	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	5,254+00	5,280+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H2	3 to 46	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 95	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	5,254+00	5,280+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H3	46 to 60	GM	--	--	20 - 40	10 - 25	5 - 20	15	15 - 20	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H1	0 to 1	GM	--	10	45 - 60	30 - 50	20 - 40	10 - 25	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H2	1 to 7	SM	--	5	80 - 95	65 - 90	45 - 65	20 - 35	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H3	7 to 18	GM	--	10	55 - 85	50 - 75	35 - 60	25 - 45	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H4	18 to 28	GM	--	10	40 - 60	35 - 50	20 - 40	10 - 25	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H5	28 to 60	GP-GM	--	10	30 - 60	25 - 50	10 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Cliffdown	H1	0 to 3	GM	--	5	30 - 55	25 - 50	20 - 35	10 - 30	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Candelaria	H1	0 to 7	GM	5	15	35 - 50	30 - 45	25 - 40	10 - 20	20 - 25	0 - 5	4 - 14	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Candelaria	H2	7 to 16	SM	5	10	70 - 80	65 - 75	50 - 60	20 - 35	20 - 25	0 - 5	4 - 14	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Candelaria	H3	16 to 24	GM	5	10	25 - 45	20 - 45	15 - 25	10 - 20	15 - 25	0 - 5	4 - 14	8.5 - 9.6	8 - 16	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Candelaria	H4	24 to 60	GW	5	10	25 - 45	20 - 35	10 - 20	10	-	--	14 - 42	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,280+00	5,410+00	3644	Armespan-Cliffdown-Candelaria association	Cliffdown	H2	3 to 60	GM	--	5	45 - 55	40 - 50	30 - 40	15 - 30	14	--	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
CS1	5,410+00	5,439+00	3410	Watoopah-Veet association	Watoopah	H1	0 to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	5,410+00	5,439+00	3410	Watoopah-Veet association	Watoopah	H2	2 to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	5,410+00	5,439+00	3410	Watoopah-Veet association	Watoopah	H3	12 to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	5,410+00	5,439+00	3410	Watoopah-Veet association	Veet	H1	0 to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	5,410+00	5,439+00	3410	Watoopah-Veet association	Veet	H2	4 to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	5,410+00	5,439+00	3410	Watoopah-Veet association	Veet	H3	12 to 60	GP-GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS1	5,410+00	5,439+00	3410	Watoopah-Veet association	Watoopah	H4	18 to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
Common Segment 2																														
CS2	6,400+00	6,765+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
CS2	6,705+00	6,713+00	SR	STEWVAL-ROCK OUTCROP ASSOCIATION	STEWVAL	H1	0 to 1	GC-GM	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS2	6,705+00	6,713+00	SR	STEWVAL-ROCK OUTCROP ASSOCIATION	STEWVAL	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS2	6,705+00	6,713+00	SR	STEWVAL-ROCK OUTCROP ASSOCIATION	STEWVAL	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS2	6,713+00	6,790+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H1	0 to 3	CL	5 - 25	5 - 25	70 - 90	60 - 80	50 - 70	40 - 60	35 - 40	15 - 20	1 - 4	6.6 - 9.0	--	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,713+00	6,790+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H2	3 to 13	CH	--	--	90 - 100	85 - 100	70 - 80	60 - 70	40 - 55	20 - 30	0 -	7.9 - 9.0	0 - 4	6.0 - 8.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,713+00	6,790+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H3	13 to 27	GC	--	5	60 - 85	50 - 70	40 - 70	25 - 50	35 - 40	15 - 20	0 - 1	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,713+00	6,790+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H4	27 to 33		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,713+00	6,790+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H5	33 to 60	GM	--	5	10 - 50	5 - 35	25	15	14	--	141 - 705	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,790+00	6,807+00	TdB	TICKAPOO GRAVELLY SANDY LOAM, 2 TO 4 PERCENT SLOPES	TICKAPOO	H1	0 to 3	GM	--	--	55 - 80	50 - 75	35 - 50	20 - 35	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	6,790+00	6,807+00	TdB	TICKAPOO GRAVELLY SANDY LOAM, 2 TO 4 PERCENT SLOPES	TICKAPOO	H2	3 to 17	SC	--	--	55 - 95	50 - 90	35 - 75	25 - 60	45 - 55	20 - 30	0 - 1	7.9 - 9.0	2 - 8	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	6,790+00	6,807+00	TdB	TICKAPOO GRAVELLY SANDY LOAM, 2 TO 4 PERCENT SLOPES	TICKAPOO	H3	17 to 22		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	6,790+00	6,807+00	TdB	TICKAPOO GRAVELLY SANDY LOAM, 2 TO 4 PERCENT SLOPES	TICKAPOO	H4	22 to 60	SP	--	--	30 - 60	15 - 50	5 - 25	5	14	--	42 - 141	7.9 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	6,790+00	6,807+00	TdB	TICKAPOO GRAVELLY SANDY LOAM, 2 TO 4 PERCENT SLOPES	TICKAPOO	H5	60 to 64		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	6,807+00	6,903+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H1	0 to 3	CL	5 - 25	5 - 25	70 - 90	60 - 80	50 - 70	40 - 60	35 - 40	15 - 20	1 - 4	6.6 - 9.0	--	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,807+00	6,903+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H2	3 to 13	CH	--	--	90 - 100	85 - 100	70 - 80	60 - 70	40 - 55	20 - 30	0 -	7.9 - 9.0	0 - 4	6.0 - 8.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,807+00	6,903+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H3	13 to 27	GC	--	5	60 - 85	50 - 70	40 - 70	25 - 50	35 - 40	15 - 20	0 - 1	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,807+00	6,903+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H4	27 to 33		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,807+00	6,903+00	TmC	TIMPAHUTE VERY STONY CLAY LOAM, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H5	33 to 60	GM	--	5	10 - 50	5 - 35	25	15	14	--	141 - 705	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,903+00	6,950+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H1	0 to 3	CL	5 - 25	5 - 25	70 - 90	60 - 80	50 - 70	40 - 60	35 - 40	15 - 20	1 - 4	6.6 - 9.0	--	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,903+00	6,950+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H2	3 to 13	CH	--	--	90 - 100	85 - 100	70 - 80	60 - 70	40 - 55	20 - 30	0 -	7.9 - 9.0	0 - 4	6.0 - 8.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,903+00	6,950+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H4	27 to 33		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,903+00	6,950+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H5	33 to 60	GP-GM	--	5	10 - 50	5 - 35	25	15	14	--	141 - 705	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,903+00	6,950+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	LEO	H1	0 to 6	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
CS2	6,903+00	6,950+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	LEO	H2	6 to 54	GP-GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	6,903+00	6,950+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H3	13 to 27	GC	--	5	60 - 85	50 - 70	40 - 70	25 - 50	35 - 40	15 - 20	0 - 1	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,950+00	6,967+00	SR	STEWVAL-ROCK OUTCROP ASSOCIATION	STEWVAL	H1	0 to 1	GC-GM	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS2	6,950+00	6,967+00	SR	STEWVAL-ROCK OUTCROP ASSOCIATION	STEWVAL	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS2	6,950+00	6,967+00	SR	STEWVAL-ROCK OUTCROP ASSOCIATION	STEWVAL	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS2	6,967+00	7,002+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H1	0 to 3	CL	5 - 25	5 - 25	70 - 90	60 - 80	50 - 70	40 - 60	35 - 40	15 - 20	1 - 4	6.6 - 9.0	--	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,967+00	7,002+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H2	3 to 13	CH	--	--	90 - 100	85 - 100	70 - 80	60 - 70	40 - 55	20 - 30	0 -	7.9 - 9.0	0 - 4	6.0 - 8.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,967+00	7,002+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H4	27 to 33		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,967+00	7,002+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H5	33 to 60	GP-GM	--	5	10 - 50	5 - 35	25	15	14	--	141 - 705	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	6,967+00	7,002+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	LEO	H1	0 to 6	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	6,967+00	7,002+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	LEO	H2	6 to 54	GP-GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	6,967+00	7,002+00	TnC	TIMPAHUTE-LEO ASSOCIATION, 2 TO 12 PERCENT SLOPES	TIMPAHUTE	H3	13 to 27	GC	--	5	60 - 85	50 - 70	40 - 70	25 - 50	35 - 40	15 - 20	0 - 1	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS2	7,002+00	7,172+00	TIC	TICKAPOO-LEO ASSOCIATION, 4 TO 12 PERCENT SLOPES	TICKAPOO	H1	0 to 3	GM	--	--	55 - 80	50 - 75	35 - 50	20 - 35	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,002+00	7,172+00	TIC	TICKAPOO-LEO ASSOCIATION, 4 TO 12 PERCENT SLOPES	TICKAPOO	H2	3 to 17	CH	--	--	55 - 95	50 - 90	35 - 75	25 - 60	45 - 55	20 - 30	0 - 1	7.9 - 9.0	2 - 8	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,002+00	7,172+00	TIC	TICKAPOO-LEO ASSOCIATION, 4 TO 12 PERCENT SLOPES	TICKAPOO	H3	17 to 22		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,002+00	7,172+00	TIC	TICKAPOO-LEO ASSOCIATION, 4 TO 12 PERCENT SLOPES	TICKAPOO	H4	22 to 60	SP	--	--	30 - 60	15 - 50	5 - 25	5	14	--	42 - 141	7.9 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,002+00	7,172+00	TIC	TICKAPOO-LEO ASSOCIATION, 4 TO 12 PERCENT SLOPES	TICKAPOO	H5	60 to 64		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,002+00	7,172+00	TIC	TICKAPOO-LEO ASSOCIATION, 4 TO 12 PERCENT SLOPES	LEO	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,002+00	7,172+00	TIC	TICKAPOO-LEO ASSOCIATION, 4 TO 12 PERCENT SLOPES	LEO	H2	4 to 60	GP-GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,172+00	7,263+00	AmB	ALKO-TICKAPOO-ROCK OUTCROP ASSOCIATION	ALKO	H1	0 to 4	GM	--	5	65 - 80	55 - 75	50 - 65	35 - 50	20 - 30	0 - 5	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,172+00	7,263+00	AmB	ALKO-TICKAPOO-ROCK OUTCROP ASSOCIATION	ALKO	H2	4 to 11	SM	--	5	70 - 90	55 - 85	35 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,172+00	7,263+00	AmB	ALKO-TICKAPOO-ROCK OUTCROP ASSOCIATION	ALKO	H3	11 to 33		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	None	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,172+00	7,263+00	AmB	ALKO-TICKAPOO-ROCK OUTCROP ASSOCIATION	ALKO	H4	33 to 60	SM	--	10	75 - 90	55 - 85	30 - 50	10 - 25	14	--	14 - 42	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,172+00	7,263+00	AmB	ALKO-TICKAPOO-ROCK OUTCROP ASSOCIATION	TICKAPOO	H1	0 to 3	SM	1 - 5	5 - 15	80 - 100	75 - 100	50 - 70	35 - 50	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,172+00	7,263+00	AmB	ALKO-TICKAPOO-ROCK OUTCROP ASSOCIATION	TICKAPOO	H2	3 to 17	CH	--	--	55 - 95	50 - 90	35 - 75	25 - 60	45 - 55	20 - 30	0 - 1	7.9 - 9.0	2 - 8	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,172+00	7,263+00	AmB	ALKO-TICKAPOO-ROCK OUTCROP ASSOCIATION	TICKAPOO	H3	17 to 22		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,172+00	7,263+00	AmB	ALKO-TICKAPOO-ROCK OUTCROP ASSOCIATION	TICKAPOO	H4	22 to 60	GP	--	--	30 - 60	15 - 50	5 - 25	5	-	--	42 - 141	7.9 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,172+00	7,263+00	AmB	ALKO-TICKAPOO-ROCK OUTCROP ASSOCIATION	TICKAPOO	H5	60 to 64		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS2	7,263+00	7,315+00	WV	WATOOPAH-VEET ASSOCIATION	WATOOPAH	H1	0 to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,263+00	7,315+00	WV	WATOOPAH-VEET ASSOCIATION	WATOOPAH	H2	2 to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,263+00	7,315+00	WV	WATOOPAH-VEET ASSOCIATION	WATOOPAH	H3	12 to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,263+00	7,315+00	WV	WATOOPAH-VEET ASSOCIATION	WATOOPAH	H4	18 to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,263+00	7,315+00	WV	WATOOPAH-VEET ASSOCIATION	VEET	H1	0 to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,263+00	7,315+00	WV	WATOOPAH-VEET ASSOCIATION	VEET	H2	4 to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,263+00	7,315+00	WV	WATOOPAH-VEET ASSOCIATION	VEET	H3	12 to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,315+00	7,332+00	3410	Watoopah-Veet association	Watoopah	H1	0 to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,315+00	7,332+00	3410	Watoopah-Veet association	Watoopah	H2	2 to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,315+00	7,332+00	3410	Watoopah-Veet association	Watoopah	H3	12 to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,315+00	7,332+00	3410	Watoopah-Veet association	Veet	H1	0 to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,315+00	7,332+00	3410	Watoopah-Veet association	Veet	H2	4 to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,315+00	7,332+00	3410	Watoopah-Veet association	Veet	H3	12 to 60	GP-GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,315+00	7,332+00	3410	Watoopah-Veet association	Watoopah	H4	18 to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To								>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
										Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
CS2	7,332+00	7,387+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Bluepoint	H1	0	to 9	SM	--	--	100 - 100	100 - 100	75 - 85	25 - 45	-	--	42 - 141	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,332+00	7,387+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Bluepoint	H2	9	to 17	SM	--	--	70 - 100	60 - 90	55 - 85	10 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,332+00	7,387+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Bluepoint	H3	17	to 41	SM	--	--	100 - 100	100 - 100	65 - 85	25 - 45	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,332+00	7,387+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Bluepoint	H4	41	to 60	ML	--	--	100 - 100	100 - 100	50 - 90	30 - 60	-	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,332+00	7,387+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Besherm	H1	0	to 2	CL	--	--	100 - 100	100 - 100	75 - 90	65 - 80	35 - 50	15 - 25	1 - 4	8.5 - 9.0	8 - 16	3.0 - 5.9	--	--	--	Low	High	High	--	Somewhat limited	Poor	Poor
CS2	7,332+00	7,387+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Besherm	H2	2	to 11	MH	--	--	100 - 100	100 - 100	90 - 100	80 - 90	45 - 65	20 - 30	0 - 1	8.5 - 9.0	8 - 16	6.0 - 8.9	--	--	--	Low	High	High	--	Somewhat limited	Poor	Poor
CS2	7,332+00	7,387+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Besherm	H3	11	to 60	CH	--	--	100 - 100	100 - 100	90 - 100	80 - 90	45 - 60	20 - 25	0 - 1	7.9 - 9.0	4 - 16	6.0 - 8.9	--	--	--	Low	High	High	--	Somewhat limited	Poor	Poor
CS2	7,332+00	7,387+00	3101	Gabbvally-Vindicator-Rock outcrop association	Gabbvally	H1	0	to 2	GM	--	10	50 - 60	35 - 45	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	11	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS2	7,332+00	7,387+00	3101	Gabbvally-Vindicator-Rock outcrop association	Gabbvally	H2	2	to 11	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	11	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS2	7,332+00	7,387+00	3101	Gabbvally-Vindicator-Rock outcrop association	Gabbvally	H3	11	to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	11	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS2	7,332+00	7,387+00	3101	Gabbvally-Vindicator-Rock outcrop association	Vindicator	H1	0	to 3	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
CS2	7,332+00	7,387+00	3101	Gabbvally-Vindicator-Rock outcrop association	Vindicator	H2	3	to 13	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
CS2	7,332+00	7,387+00	3101	Gabbvally-Vindicator-Rock outcrop association	Vindicator	H3	13	to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
CS2	7,387+00	7,402+00	3415	Watoopah-Leo association	Watoopah	H1	0	to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,387+00	7,402+00	3415	Watoopah-Leo association	Watoopah	H2	2	to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,387+00	7,402+00	3415	Watoopah-Leo association	Watoopah	H3	12	to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,387+00	7,402+00	3415	Watoopah-Leo association	Leo	H1	0	to 8	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,387+00	7,402+00	3415	Watoopah-Leo association	Leo	H2	8	to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,387+00	7,402+00	3415	Watoopah-Leo association	Watoopah	H4	18	to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,402+00	7,410+00	3410	Watoopah-Veet association	Watoopah	H1	0	to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,402+00	7,410+00	3410	Watoopah-Veet association	Watoopah	H2	2	to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,402+00	7,410+00	3410	Watoopah-Veet association	Watoopah	H3	12	to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,402+00	7,410+00	3410	Watoopah-Veet association	Veet	H1	0	to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,402+00	7,410+00	3410	Watoopah-Veet association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,402+00	7,410+00	3410	Watoopah-Veet association	Veet	H3	12	to 60	GP-GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS2	7,402+00	7,410+00	3410	Watoopah-Veet association	Watoopah	H4	18	to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
Common Segment 3																														
CS3	9,800+00	9,814+00	3463	Zadvar-Veet association	Zadvar	H1	0	to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,800+00	9,814+00	3463	Zadvar-Veet association	Zadvar	H2	3	to 10	SC	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,800+00	9,814+00	3463	Zadvar-Veet association	Zadvar	H3	10	to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,800+00	9,814+00	3463	Zadvar-Veet association	Veet	H1	0	to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,800+00	9,814+00	3463	Zadvar-Veet association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,800+00	9,814+00	3463	Zadvar-Veet association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,800+00	9,814+00	3463	Zadvar-Veet association	Zadvar	H4	14	to 60	GP-GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,814+00	9,853+00	3226	Stewval-Bellehelen-Rock outcrop association	Stewval	H1	0	to 1	GC-GM	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,814+00	9,853+00	3226	Stewval-Bellehelen-Rock outcrop association	Stewval	H2	1	to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,814+00	9,853+00	3226	Stewval-Bellehelen-Rock outcrop association	Stewval	H3	7	to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,814+00	9,853+00	3226	Stewval-Bellehelen-Rock outcrop association	Bellehelen	H1	0	to 2	GM	5 - 15	5 - 40	65 - 80	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS3	9,814+00	9,853+00	3226	Stewval-Bellehelen-Rock outcrop association	Bellehelen	H2	2	to 9	GC	5	25	50 - 60	35 - 50	20 - 40	15 - 30	25 - 40	5 - 20	1 - 4	6.6 - 7.8	--	3.0 - 5.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS3	9,814+00	9,853+00	3226	Stewval-Bellehelen-Rock outcrop association	Bellehelen	H3	9	to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS3	9,853+00	9,896+00	3463	Zadvar-Veet association	Zadvar	H1	0	to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,853+00	9,896+00	3463	Zadvar-Veet association	Zadvar	H2	3	to 10	SC	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,853+00	9,896+00	3463	Zadvar-Veet association	Zadvar	H3	10	to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,853+00	9,896+00	3463	Zadvar-Veet association	Veet	H1	0	to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,853+00	9,896+00	3463	Zadvar-Veet association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,853+00	9,896+00	3463	Zadvar-Veet association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,853+00	9,896+00	3463	Zadvar-Veet association	Zadvar	H4	14	to 60	GP-GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,896+00	9,902+00	3223	Stewval-Rock outcrop association	Stewval	H1	0	to 1	GC	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,896+00	9,902+00	3223	Stewval-Rock outcrop association	Stewval	H2	1	to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,896+00	9,902+00	3223	Stewval-Rock outcrop association	Stewval	H3	7	to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,902+00	9,910+00	3463	Zadvar-Veet association	Zadvar	H1	0	to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,902+00	9,910+00	3463	Zadvar-Veet association	Zadvar	H2	3	to 10	SC	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,902+00	9,910+00	3463	Zadvar-Veet association	Zadvar	H3	10	to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,902+00	9,910+00	3463	Zadvar-Veet association	Veet	H1	0	to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,902+00	9,910+00	3463	Zadvar-Veet association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,902+00	9,910+00	3463	Zadvar-Veet association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,902+00	9,910+00	3463	Zadvar-Veet association	Zadvar	H4	14	to 60	GP-GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,910+00	9,921+00	3226	Stewval-Bellehelen-Rock outcrop association	Stewval	H1	0	to 1	GC-GM	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,910+00	9,921+00	3226	Stewval-Bellehelen-Rock outcrop association	Stewval	H2	1	to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,910+00	9,921+00	3226	Stewval-Bellehelen-Rock outcrop association	Stewval	H3	7	to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,910+00	9,921+00	3226	Stewval-Bellehelen-Rock outcrop association	Bellehelen	H1	0	to 2	GM	5 - 15	5 - 40	65 - 80	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS3	9,910+00	9,921+00	3226	Stewval-Bellehelen-Rock outcrop association	Bellehelen	H2	2	to 9	GC	5	25	50 - 60	35 - 50	20 - 40	15 - 30	25 - 40	5 - 20	1 - 4	6.6 - 7.8	--	3.0 - 5.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS3	9,910+00	9,921+00	3226	Stewval-Bellehelen-Rock outcrop association	Bellehelen	H3	9	to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS3	9,921+00	9,964+00	3463	Zadvar-Veet association	Zadvar	H1	0	to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To							>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
CS3	9,921+00	9,964+00	3463	Zadvar-Veet association	Zadvar	H2	3 to 10	SC	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,921+00	9,964+00	3463	Zadvar-Veet association	Zadvar	H3	10 to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,921+00	9,964+00	3463	Zadvar-Veet association	Veet	H1	0 to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,921+00	9,964+00	3463	Zadvar-Veet association	Veet	H2	4 to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,921+00	9,964+00	3463	Zadvar-Veet association	Veet	H3	12 to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,921+00	9,964+00	3463	Zadvar-Veet association	Zadvar	H4	14 to 60	GP-GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,964+00	9,990+00	3226	Stewval-Bellehelen-Rock outcrop associatior	Stewval	H1	0 to 1	GC-GM	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,964+00	9,990+00	3226	Stewval-Bellehelen-Rock outcrop associatior	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,964+00	9,990+00	3226	Stewval-Bellehelen-Rock outcrop associatior	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
CS3	9,964+00	9,990+00	3226	Stewval-Bellehelen-Rock outcrop associatior	Bellehelen	H1	0 to 2	GM	5 - 15	5 - 40	65 - 80	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS3	9,964+00	9,990+00	3226	Stewval-Bellehelen-Rock outcrop associatior	Bellehelen	H2	2 to 9	GC	5	25	50 - 60	35 - 50	20 - 40	15 - 30	25 - 40	5 - 20	1 - 4	6.6 - 7.8	--	3.0 - 5.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS3	9,964+00	9,990+00	3226	Stewval-Bellehelen-Rock outcrop associatior	Bellehelen	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
CS3	9,990+00	10,020+00	3463	Zadvar-Veet association	Zadvar	H1	0 to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,990+00	10,020+00	3463	Zadvar-Veet association	Zadvar	H2	3 to 10	SC	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,990+00	10,020+00	3463	Zadvar-Veet association	Zadvar	H3	10 to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	9,990+00	10,020+00	3463	Zadvar-Veet association	Veet	H1	0 to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,990+00	10,020+00	3463	Zadvar-Veet association	Veet	H2	4 to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,990+00	10,020+00	3463	Zadvar-Veet association	Veet	H3	12 to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	9,990+00	10,020+00	3463	Zadvar-Veet association	Zadvar	H4	14 to 60	GP-GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,020+00	10,057+00	3830	Downeyville-Rock outcrop complex, 15 to 50 percent slopes	Downeyville	H1	0 to 5	SC-SM	5	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
CS3	10,020+00	10,057+00	3830	Downeyville-Rock outcrop complex, 15 to 50 percent slopes	Downeyville	H2	5 to 13	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
CS3	10,020+00	10,057+00	3830	Downeyville-Rock outcrop complex, 15 to 50 percent slopes	Downeyville	H3	13 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
CS3	10,057+00	10,069+00	3130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H1	0 to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,057+00	10,069+00	3130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,057+00	10,069+00	3130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,057+00	10,069+00	3130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H4	34 to 60	GW	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,069+00	10,100+00	3830	Downeyville-Rock outcrop complex, 15 to 50 percent slopes	Downeyville	H1	0 to 5	SC-SM	5	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
CS3	10,069+00	10,100+00	3830	Downeyville-Rock outcrop complex, 15 to 50 percent slopes	Downeyville	H2	5 to 13	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
CS3	10,069+00	10,100+00	3830	Downeyville-Rock outcrop complex, 15 to 50 percent slopes	Downeyville	H3	13 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
CS3	10,100+00	10,157+00	3130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H1	0 to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,100+00	10,157+00	3130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,100+00	10,157+00	3130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,100+00	10,157+00	3130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H4	34 to 60	GW	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,157+00	10,400+00	1130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H1	0 to 3	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,157+00	10,400+00	1130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H2	3 to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,157+00	10,400+00	1130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H3	15 to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,157+00	10,400+00	1130	Unsel gravelly sandy loam, 2 to 8 percent slopes	Unsel	H4	28 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,400+00	10,418+00	1820	Izo very gravelly sand, 2 to 8 percent slopes	Izo	H1	0 to 5	GP-GM	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
CS3	10,400+00	10,418+00	1820	Izo very gravelly sand, 2 to 8 percent slopes	Izo	H2	5 to 60	GW-GM	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Unsel	H1	0 to 3	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Unsel	H2	3 to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Unsel	H3	15 to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Unsel	H4	28 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H1	0 to 5	SM	--	--	80 - 95	75 - 90	45 - 65	15 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H2	5 to 17	SM	--	--	75 - 95	70 - 90	40 - 55	20 - 30	15 - 20	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H3	17 to 25	SM	--	--	75 - 95	70 - 90	35 - 50	10 - 20	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H4	25 to 60	GP-GM	--	10	40 - 55	35 - 50	15 - 35	5 - 10	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Stumble	H1	0 to 5	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Stumble	H2	5 to 38	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	10,418+00	10,428+00	1136	Unsel-Eastgate-Stumble association	Stumble	H3	38 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	10,428+00	10,507+00	1230	Geer-Eastgate association	Geer	H1	0 to 4	SM	--	--	100 - 100	95 - 100	85 - 95	40 - 65	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS3	10,428+00	10,507+00	1230	Geer-Eastgate association	Eastgate	H1	0 to 5	SM	--	--	60 - 75	55 - 70	30 - 50	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,428+00	10,507+00	1230	Geer-Eastgate association	Eastgate	H2	5 to 17	SM	--	--	75 - 95	70 - 90	40 - 55	20 - 30	15 - 20	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,428+00	10,507+00	1230	Geer-Eastgate association	Eastgate	H3	17 to 25	SM	--	--	75 - 95	70 - 90	35 - 50	10 - 20	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,428+00	10,507+00	1230	Geer-Eastgate association	Eastgate	H4	25 to 60	GW-GM	--	10	40 - 55	35 - 50	15 - 35	5 - 10	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,428+00	10,507+00	1230	Geer-Eastgate association	Geer	H2	4 to 60	ML	--	--	85 - 100	85 - 100	80 - 95	40 - 75	15 - 25	0 - 5	4 - 14	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Unsel	H1	0 to 3	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Unsel	H2	3 to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Unsel	H3	15 to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Unsel	H4	28 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H1	0 to 5	SM	--	--	80 - 95	75 - 90	45 - 65	15 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H2	5 to 17	SM	--	--	75 - 95	70 - 90	40 - 55	20 - 30	15 - 20	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H3	17 to 25	SM	--	--	75 - 95	70 - 90	35 - 50	10 - 20	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H4	25 to 60	GP-GM	--	10	40 - 55	35 - 50	15 - 35	5 - 10	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Stumble	H1	0 to 5	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Stumble	H2	5 to 38	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	10,507+00	10,643+00	1136	Unsel-Eastgate-Stumble association	Stumble	H3	38 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Unsel	H1	0 to 3	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Unsel	H2	3 to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Unsel	H3	15 to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Unsel	H4	28 to 60	GW	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Hollywell	H1	0 to 5	SM	--	10	60 - 85	55 - 75	30 - 50	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Hollywell	H2	5 to 11	SM	--	10	65 - 95	60 - 90	35 - 65	20 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Hollywell	H3	11 to 33	GM	--	25	35 - 60	30 - 50	20 - 35	10 - 20	-	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Hollywell	H4	33 to 60	GP-GM	--	25	30 - 60	25 - 50	10 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Lyx	H1	0 to 3	GM	--	5	55 - 85	50 - 75	25 - 55	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Lyx	H2	3 to 11	SW-SM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,643+00	10,750+00	1134	Unsel-Hollywell-Lyx association	Lyx	H3	11 to 60	SW-SM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Eastgate	H1	0 to 5	SM	--	--	80 - 95	75 - 90	45 - 65	15 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Eastgate	H2	5 to 17	SM	--	--	75 - 95	70 - 90	40 - 55	20 - 30	15 - 20	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Eastgate	H3	17 to 25	SM	--	--	75 - 95	70 - 90	35 - 50	10 - 20	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Eastgate	H4	25 to 60	GP-GM	--	10	40 - 55	35 - 50	15 - 35	5 - 10	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Lyx	H1	0 to 3	GW-GM	--	5	55 - 85	50 - 75	25 - 55	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Stumble	H1	0 to 5	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Stumble	H2	5 to 38	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Stumble	H3	38 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	10,750+00	11,050+00	1035	Eastgate-Lyx-Stumble association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Papoose-Stumble association	Papoose	H1	0 to 6	ML	--	--	95 - 100	90 - 100	60 - 80	40 - 55	15 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Papoose-Stumble association	Papoose	H2	6 to 11	CL	--	--	95 - 100	90 - 100	65 - 85	50 - 70	25 - 40	10 - 20	4 - 14	7.4 - 9.0	0 - 8	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Papoose-Stumble association	Papoose	H3	11 to 24	ML	--	--	80 - 100	75 - 100	50 - 80	30 - 55	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Papoose-Stumble association	Papoose	H4	24 to 36	GM	--	--	55 - 80	50 - 75	30 - 50	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Papoose-Stumble association	Papoose	H5	36 to 60	GP-GM	--	--	30 - 55	25 - 50	10 - 25	5 - 15	-	--	141 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	10,750+00	11,050+00	1035	Papoose-Stumble association	Stumble	H1	0 to 4	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	10,750+00	11,050+00	1035	Papoose-Stumble association	Stumble	H2	4 to 21	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	10,750+00	11,050+00	1035	Papoose-Stumble association	Stumble	H3	21 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,050+00	11,120+00	1243	Stargo-Playas-Slaw association	Stargo	H1	0 to 5	SM	--	--	90 - 100	75 - 85	45 - 55	20 - 30	-	--	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,050+00	11,120+00	1243	Stargo-Playas-Slaw association	Stargo	H2	5 to 13	CL	--	--	95 - 100	85 - 95	75 - 85	65 - 75	35 - 45	15 - 20	1 - 4	8.5 - 9.0	2 - 4	3.0 - 5.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,050+00	11,120+00	1243	Stargo-Playas-Slaw association	Playas	H1	0 to 6	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
CS3	11,050+00	11,120+00	1243	Stargo-Playas-Slaw association	Playas	H2	6 to 60	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
CS3	11,050+00	11,120+00	1243	Stargo-Playas-Slaw association	Slaw	H1	0 to 9	ML	--	--	95 - 100	95 - 100	85 - 100	75 - 90	25 - 35	5 - 10	1 - 4	8.5 - 9.6	16 - 32	0.0 - 2.9	0	--	--	Moderate	High	High	--	Very limited	Poor	Poor
CS3	11,050+00	11,120+00	1243	Stargo-Playas-Slaw association	Slaw	H2	9 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 45	10 - 20	0 - 1	8.5 - 9.6	4 - 16	3.0 - 5.9	0	--	--	Moderate	High	High	--	Very limited	Poor	Poor
CS3	11,050+00	11,120+00	1243	Stargo-Playas-Slaw association	Stargo	H3	13 to 60	SM	--	5	80 - 90	75 - 85	45 - 60	20 - 35	-	--	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Unsel	H1	0 to 3	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Unsel	H2	3 to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Unsel	H3	15 to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Unsel	H4	28 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H1	0 to 5	SM	--	--	80 - 95	75 - 90	45 - 65	15 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H2	5 to 17	SM	--	--	75 - 95	70 - 90	40 - 55	20 - 30	15 - 20	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H3	17 to 25	SM	--	--	75 - 95	70 - 90	35 - 50	10 - 20	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H4	25 to 60	GP-GM	--	10	40 - 55	35 - 50	15 - 35	5 - 10	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Stumble	H1	0 to 5	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Stumble	H2	5 to 38	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,120+00	11,202+00	1136	Unsel-Eastgate-Stumble association	Stumble	H3	38 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,202+00	11,212+00	1243	Stargo-Playas-Slaw association	Stargo	H1	0 to 5	SM	--	--	90 - 100	75 - 85	45 - 55	20 - 30	-	--	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,202+00	11,212+00	1243	Stargo-Playas-Slaw association	Stargo	H2	5 to 13	CL	--	--	95 - 100	85 - 95	75 - 85	65 - 75	35 - 45	15 - 20	1 - 4	8.5 - 9.0	2 - 4	3.0 - 5.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,202+00	11,212+00	1243	Stargo-Playas-Slaw association	Playas	H1	0 to 6	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
CS3	11,202+00	11,212+00	1243	Stargo-Playas-Slaw association	Playas	H2	6 to 60	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
CS3	11,202+00	11,212+00	1243	Stargo-Playas-Slaw association	Slaw	H1	0 to 9	ML	--	--	95 - 100	95 - 100	85 - 100	75 - 90	25 - 35	5 - 10	1 - 4	8.5 - 9.6	16 - 32	0.0 - 2.9	0	--	--	Moderate	High	High	--	Very limited	Poor	Poor
CS3	11,202+00	11,212+00	1243	Stargo-Playas-Slaw association	Slaw	H2	9 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 45	10 - 20	0 - 1	8.5 - 9.6	4 - 16	3.0 - 5.9	0	--	--	Moderate	High	High	--	Very limited	Poor	Poor
CS3	11,202+00	11,212+00	1243	Stargo-Playas-Slaw association	Stargo	H3	13 to 60	SM	--	5	80 - 90	75 - 85	45 - 60	20 - 35	-	--	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Unsel	H1	0 to 3	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Unsel	H2	3 to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Unsel	H3	15 to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Unsel	H4	28 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H1	0 to 5	SM	--	--	80 - 95	75 - 90	45 - 65	15 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H2	5 to 17	SM	--	--	75 - 95	70 - 90	40 - 55	20 - 30	15 - 20	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H3	17 to 25	SM	--	--	75 - 95	70 - 90	35 - 50	10 - 20	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Eastgate	H4	25 to 60	GP-GM	--	10	40 - 55	35 - 50	15 - 35	5 - 10	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Stumble	H1	0 to 5	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Stumble	H2	5 to 38	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,212+00	11,244+00	1136	Unsel-Eastgate-Stumble association	Stumble	H3	38 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,244+00	11,265+00	1830	Downeyville-Rock outcrop complex, 15 to 50 percent slopes	Downeyville	H1	0 to 4	SC-SM	5	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	10	--	Low	Low	High	--	Very limited	Poor	Poor
CS3	11,244+00	11,265+00	1830	Downeyville-Rock outcrop complex, 15 to 50 percent slopes	Downeyville	H2	4 to 10	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	10	--	Low	Low	High	--	Very limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
	From	To							Percent Retained		Percent Passing				Percent		µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
CS3	11,244+00	11,265+00	1830	Downeyville-Rock outcrop complex, 15 to 50 percent slopes	Downeyville	H3	10 to 14		-	-	-	-	-	-	-	-	0.01	-	-	-	--	10	--	Low	Low	High	--	Very limited	Poor	Poor
CS3	11,265+00	11,345+00	1004	Stumble-Eastgate association	Stumble	H1	0 to 5	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,265+00	11,345+00	1004	Stumble-Eastgate association	Stumble	H2	5 to 38	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,265+00	11,345+00	1004	Stumble-Eastgate association	Stumble	H3	38 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,265+00	11,345+00	1004	Stumble-Eastgate association	Eastgate	H1	0 to 5	SM	--	--	60 - 75	55 - 70	30 - 50	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,265+00	11,345+00	1004	Stumble-Eastgate association	Eastgate	H2	5 to 17	SM	--	--	75 - 95	70 - 90	40 - 55	20 - 30	15 - 20	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,265+00	11,345+00	1004	Stumble-Eastgate association	Eastgate	H3	17 to 25	SM	--	--	75 - 95	70 - 90	35 - 50	10 - 20	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,265+00	11,345+00	1004	Stumble-Eastgate association	Eastgate	H4	25 to 60	GW-GM	--	10	40 - 55	35 - 50	15 - 35	5 - 10	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,345+00	11,378+00	1243	Stargo-Playas-Slaw association	Stargo	H1	0 to 5	SM	--	--	90 - 100	75 - 85	45 - 55	20 - 30	-	--	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,345+00	11,378+00	1243	Stargo-Playas-Slaw association	Stargo	H2	5 to 13	CL	--	--	95 - 100	85 - 95	75 - 85	65 - 75	35 - 45	15 - 20	1 - 4	8.5 - 9.0	2 - 4	3.0 - 5.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,345+00	11,378+00	1243	Stargo-Playas-Slaw association	Playas	H1	0 to 6	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
CS3	11,345+00	11,378+00	1243	Stargo-Playas-Slaw association	Playas	H2	6 to 60	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
CS3	11,345+00	11,378+00	1243	Stargo-Playas-Slaw association	Slaw	H1	0 to 9	ML	--	--	95 - 100	95 - 100	85 - 100	75 - 90	25 - 35	5 - 10	1 - 4	8.5 - 9.6	16 - 32	0.0 - 2.9	0	--	--	Moderate	High	High	--	Very limited	Poor	Poor
CS3	11,345+00	11,378+00	1243	Stargo-Playas-Slaw association	Slaw	H2	9 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 45	10 - 20	0 - 1	8.5 - 9.6	4 - 16	3.0 - 5.9	0	--	--	Moderate	High	High	--	Very limited	Poor	Poor
CS3	11,345+00	11,378+00	1243	Stargo-Playas-Slaw association	Stargo	H3	13 to 60	SM	--	5	80 - 90	75 - 85	45 - 60	20 - 35	-	--	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,378+00	11,480+00	1004	Stumble-Eastgate association	Stumble	H1	0 to 5	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,378+00	11,480+00	1004	Stumble-Eastgate association	Stumble	H2	5 to 38	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,378+00	11,480+00	1004	Stumble-Eastgate association	Stumble	H3	38 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,378+00	11,480+00	1004	Stumble-Eastgate association	Eastgate	H1	0 to 5	SM	--	--	60 - 75	55 - 70	30 - 50	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,378+00	11,480+00	1004	Stumble-Eastgate association	Eastgate	H2	5 to 17	SM	--	--	75 - 95	70 - 90	40 - 55	20 - 30	15 - 20	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,378+00	11,480+00	1004	Stumble-Eastgate association	Eastgate	H3	17 to 25	SM	--	--	75 - 95	70 - 90	35 - 50	10 - 20	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,378+00	11,480+00	1004	Stumble-Eastgate association	Eastgate	H4	25 to 60	GW-GM	--	10	40 - 55	35 - 50	15 - 35	5 - 10	-	--	42 - 141	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,480+00	11,560+00	1243	Stargo-Playas-Slaw association	Stargo	H1	0 to 5	SM	--	--	90 - 100	75 - 85	45 - 55	20 - 30	-	--	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,480+00	11,560+00	1243	Stargo-Playas-Slaw association	Stargo	H2	5 to 13	CL	--	--	95 - 100	85 - 95	75 - 85	65 - 75	35 - 45	15 - 20	1 - 4	8.5 - 9.0	2 - 4	3.0 - 5.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,480+00	11,560+00	1243	Stargo-Playas-Slaw association	Playas	H1	0 to 6	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
CS3	11,480+00	11,560+00	1243	Stargo-Playas-Slaw association	Playas	H2	6 to 60	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Very limited	Poor	Poor
CS3	11,480+00	11,560+00	1243	Stargo-Playas-Slaw association	Slaw	H1	0 to 9	ML	--	--	95 - 100	95 - 100	85 - 100	75 - 90	25 - 35	5 - 10	1 - 4	8.5 - 9.6	16 - 32	0.0 - 2.9	0	--	--	Moderate	High	High	--	Very limited	Poor	Poor
CS3	11,480+00	11,560+00	1243	Stargo-Playas-Slaw association	Slaw	H2	9 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 45	10 - 20	0 - 1	8.5 - 9.6	4 - 16	3.0 - 5.9	0	--	--	Moderate	High	High	--	Very limited	Poor	Poor
CS3	11,480+00	11,560+00	1243	Stargo-Playas-Slaw association	Stargo	H3	13 to 60	SM	--	5	80 - 90	75 - 85	45 - 60	20 - 35	-	--	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	0	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS3	11,560+00	11,615+00	1001	Stumble-Koyen association	Stumble	H1	0 to 5	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,560+00	11,615+00	1001	Stumble-Koyen association	Stumble	H2	5 to 38	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,560+00	11,615+00	1001	Stumble-Koyen association	Stumble	H3	38 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,560+00	11,615+00	1001	Stumble-Koyen association	Koyen	H1	0 to 4	SM	--	--	90 - 100	75 - 100	40 - 60	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,560+00	11,615+00	1001	Stumble-Koyen association	Koyen	H3	27 to 60	GM	--	--	55 - 65	50 - 60	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,560+00	11,615+00	1001	Stumble-Koyen association	Koyen	H2	4 to 27	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Jevets	H1	0 to 5	SM	--	5	90 - 100	75 - 100	60 - 80	20 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Jevets	H2	5 to 23	SM	--	5	90 - 100	75 - 100	60 - 80	20 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Jevets	H3	23 to 27	SM	--	5	90 - 100	75 - 100	60 - 80	30 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Jevets	H4	27 to 40		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Stumble	H1	0 to 5	SM	--	5	85 - 100	85 - 100	75 - 90	15 - 25	-	--	42 - 141	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Stumble	H2	5 to 38	SM	--	5	85 - 100	85 - 100	55 - 75	15 - 25	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Stumble	H3	38 to 60	SM	--	10	75 - 85	50 - 70	40 - 60	15 - 25	-	--	42 - 141	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Univega	H1	0 to 4	SM	--	10	60 - 85	50 - 80	40 - 70	10 - 20	14	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Univega	H2	4 to 13	SM	--	5	90 - 100	75 - 100	60 - 80	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Univega	H3	13 to 42		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,615+00	11,950+00	1390	Jevets-Stumble-Univega association	Univega	H4	42 to 60	SW-SM	--	5	60 - 85	50 - 75	20 - 40	5 - 20	14	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Yomba	H1	0 to 4	GM	--	--	55 - 80	50 - 75	50 - 65	20 - 30	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Yomba	H2	4 to 16	SC-SM	--	--	80 - 100	75 - 100	70 - 85	35 - 50	20 - 30	5 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Yomba	H3	16 to 23	GM	--	10	40 - 60	35 - 55	20 - 30	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Yomba	H4	23 to 60	GW	--	15	25 - 40	20 - 35	10 - 20	5	-	--	42 - 141	7.4 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Playas	H1	0 to 6	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Not limited	Poor	Poor
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Playas	H2	6 to 60	CL	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Not limited	Poor	Poor
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Yomba	H1	0 to 4	SM	--	--	55 - 80	50 - 75	50 - 65	20 - 30	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Yomba	H2	4 to 16	SC-SM	--	--	80 - 100	75 - 100	70 - 85	35 - 50	20 - 30	5 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Yomba	H3	16 to 23	GM	--	10	40 - 60	35 - 55	20 - 30	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	11,950+00	12,295+00	1911	Yomba-Playas association	Yomba	H4	23 to 60	GW	--	15	25 - 40	20 - 35	10 - 20	5	-	--	42 - 141	7.4 - 9.0	0 - 2	0.0 - 2.9	0	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	12,295+00	12,305+00	1476	Cirac-Kawich association	Cirac	H1	0 to 1	ML	--	--	100 - 100	100 - 100	75 - 90	40 - 55	15 - 25	0 - 5	14 - 42	8.5 - 9.6	16 - 32	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
CS3	12,295+00	12,305+00	1476	Cirac-Kawich association	Kawich	H1	0 to 3	SM	--	--	100 - 100	100 - 100	75 - 90	15 - 30	-	--	141 - 705	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	12,295+00	12,305+00	1476	Cirac-Kawich association	Kawich	H2	3 to 60	SM	--	--	100 - 100	100 - 100	75 - 90	15 - 30	-	--	141 - 705	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS3	12,295+00	12,305+00	1476	Cirac-Kawich association	Cirac	H2	1 to 60	SM	--	--	90 - 100	75 - 100	50 - 70	35 - 50	15 - 25	0 - 5	14 - 42	8.5 - 9.6	16 - 32	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
CS3	12,305+00	12,335+00	1141	Unsel-Wardenot-Izo association	Unsel	H1	0 to 3	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	12,305+00	12,335+00	1141	Unsel-Wardenot-Izo association	Unsel	H2	3 to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	12,305+00	12,335+00	1141	Unsel-Wardenot-Izo association	Unsel	H3	15 to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	12,305+00	12,335+00	1141	Unsel-Wardenot-Izo association	Unsel	H4	28 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	12,305+00	12,335+00	1141	Unsel-Wardenot-Izo association	Wardenot	H1	0 to 1	SM	--	--	60 - 80	50 - 75	30 - 55	10 - 20	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	12,305+00	12,335+00	1141	Unsel-Wardenot-Izo association	Izo	H1	0 to 5	SP	--	5	75 - 85	50 - 75	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS3	12,305+00	12,335+00	1141	Unsel-Wardenot-Izo association	Izo	H2	5 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties: >10 inches (Percent Retained)	3 to10 inches (Percent Retained)	#4 Sieve (Percent Passing)	#10 Sieve (Percent Passing)	#40 Sieve (Percent Passing)	#200 Sieve (Percent Passing)	Liquid Limit (Percent)	Plasticity Index (Percent)	Physical and Chemical Properties: Saturated Hydraulic Conductivity (µM/sec)	Reaction (pH)	Salinity (electrical conductivity) (µmhos/cm)	Linear Extensibility (shrink-swell) (Percent)	Soil Rock and Water Features: Depth to Water Table (inches)	Depth to Bedrock (inches)	Bedrock Hardness	Frost Action	Risk of Corrosion: Concrete	Uncoated Steel	Site Development: Excavation Difficulty	Local Roads and Streets	Material Source: Sand	Gravel
CS3	12,305+00	12,335+00	1141	Unsel-Wardenot-Izo association	Wardenot	H2	1 to 60	GP-GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
Common Segment 4																														
CS4	13,871+00	13,974+00	2580	WARDENOT-IZO ASSOCIATION	Wardenot	H1	0 to 5	SM	--	10	45 - 60	35 - 55	20 - 40	10 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	13,871+00	13,974+00	2580	WARDENOT-IZO ASSOCIATION	Wardenot	H2	5 to 60	GM	5	5 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	13,871+00	13,974+00	2580	WARDENOT-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	13,871+00	13,974+00	2580	WARDENOT-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	13,974+00	14,000+00	442	Wardenot-Izo association	Wardenot	H1	0 to 7	GM	--	10	45 - 60	35 - 55	20 - 40	10 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	13,974+00	14,000+00	442	Wardenot-Izo association	Izo	H1	0 to 8	GW-GM	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	13,974+00	14,000+00	442	Wardenot-Izo association	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	13,974+00	14,000+00	442	Wardenot-Izo association	Wardenot	H2	7 to 60	GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	14,000+00	14,008+00	108	Unsel-Izo association	Unsel	H1	0 to 7	SC	1	40 - 50	65 - 90	55 - 80	35 - 55	15 - 30	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS4	14,000+00	14,008+00	108	Unsel-Izo association	Unsel	H2	7 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS4	14,000+00	14,008+00	108	Unsel-Izo association	Unsel	H3	11 to 20	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS4	14,000+00	14,008+00	108	Unsel-Izo association	Unsel	H4	20 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS4	14,000+00	14,008+00	108	Unsel-Izo association	Izo	H1	0 to 8	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS4	14,000+00	14,008+00	108	Unsel-Izo association	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS4	14,008+00	14,017+00	442	Wardenot-Izo association	Wardenot	H1	0 to 7	GM	--	10	45 - 60	35 - 55	20 - 40	10 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	14,008+00	14,017+00	442	Wardenot-Izo association	Izo	H1	0 to 8	GW-GM	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	14,008+00	14,017+00	442	Wardenot-Izo association	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	14,008+00	14,017+00	442	Wardenot-Izo association	Wardenot	H2	7 to 60	GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	14,017+00	14,060+00	2580	WARDENOT-IZO ASSOCIATION	Wardenot	H1	0 to 5	SM	--	10	45 - 60	35 - 55	20 - 40	10 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	14,017+00	14,060+00	2580	WARDENOT-IZO ASSOCIATION	Wardenot	H2	5 to 60	GM	5	5 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	14,017+00	14,060+00	2580	WARDENOT-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	14,017+00	14,060+00	2580	WARDENOT-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS4	14,060+00	14,250+00	2532	LAXAL-FANG ASSOCIATION	Laxal	H1	0 to 4	GM	5	10	60 - 80	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS4	14,060+00	14,250+00	2532	LAXAL-FANG ASSOCIATION	Laxal	H2	4 to 60	GM	5	15	35 - 45	30 - 40	15 - 25	10 - 15	-	--	14 - 42	8.5 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS4	14,060+00	14,250+00	2532	LAXAL-FANG ASSOCIATION	Fang	H1	0 to 3	SM	--	--	90 - 100	85 - 100	60 - 80	30 - 45	15 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS4	14,060+00	14,250+00	2532	LAXAL-FANG ASSOCIATION	Fang	H2	3 to 42	SM	--	--	80 - 100	75 - 100	40 - 75	25 - 45	20 - 25	0 - 5	4 - 14	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS4	14,060+00	14,250+00	2532	LAXAL-FANG ASSOCIATION	Fang	H3	42 to 64	SM	--	--	65 - 90	60 - 85	45 - 70	25 - 35	-	--	4 - 14	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
Common Segment 5																														
CS5	14,890+00	15,160+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
CS5	15,160+00	15,196+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H1	0 to 6	GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,160+00	15,196+00	2230	YERMO-SKELON ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,160+00	15,196+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H1	0 to 4	SM	--	5	60 - 80	50 - 75	40 - 60	15 - 35	14	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,160+00	15,196+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H2	4 to 28	GM	5	10	35 - 55	30 - 50	15 - 35	10 - 20	14	--	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,160+00	15,196+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H3	28 to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,160+00	15,196+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H4	44 to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	14	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,160+00	15,196+00	2230	YERMO-SKELON ASSOCIATION	Skelon	H5	52 to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,160+00	15,196+00	2230	Rotinom-Wholan association	Rotinom	H1	0 to 8	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	30 - 40	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS5	15,160+00	15,196+00	2230	Rotinom-Wholan association	Rotinom	H2	8 to 60	ML	--	--	95 - 100	95 - 100	95 - 100	75 - 90	35 - 45	5 - 10	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS5	15,160+00	15,196+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS5	15,160+00	15,196+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS5	15,160+00	15,196+00	2230	Rotinom-Wholan association	Wholan	H1	0 to 4	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 80	15 - 25	0 - 5	4 - 14	7.4 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS5	15,160+00	15,196+00	2230	Rotinom-Wholan association	Wholan	H2	4 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	75 - 90	20 - 30	0 - 5	4 - 14	7.4 - 9.0	4 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
CS5	15,196+00	15,200+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
CS5	15,200+00	15,275+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
CS5	15,275+00	15,323+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H1	0 to 9	SM	--	--	65 - 80	60 - 75	45 - 60	25 - 40	14	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,275+00	15,323+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H2	9 to 16	SM	--	15	70 - 80	60 - 75	45 - 65	25 - 40	14	--	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,275+00	15,323+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H3	16 to 31	GM	--	--	45 - 65	35 - 50	25 - 45	10 - 25	14	--	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,275+00	15,323+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H4	31 to 60	GM	--	--	35 - 60	25 - 50	15 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,275+00	15,323+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,275+00	15,323+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,275+00	15,323+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,275+00	15,323+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,275+00	15,323+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H5	24 to 60	GM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,323+00	15,332+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
CS5	15,332+00	15,367+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H1	0 to 9	SM	--	--	65 - 80	60 - 75	45 - 60	25 - 40	14	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,332+00	15,367+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H2	9 to 16	SM	--	15	70 - 80	60 - 75	45 - 65	25 - 40	14	--	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,332+00	15,367+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H3	16 to 31	GM	--	--	45 - 65	35 - 50	25 - 45	10 - 25	14	--	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,332+00	15,367+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H4	31 to 60	GM	--	--	35 - 60	25 - 50	15 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,332+00	15,367+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,332+00	15,367+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,332+00	15,367+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,332+00	15,367+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,332+00	15,367+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H5	24 to 60	GM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,367+00	15,375+00	2216	YERMO-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,367+00	15,375+00	2216	YERMO-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,367+00	15,375+00	2216	YERMO-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Arizo	H1	0 to 8	GP-GM	--	5	30 - 55	25 - 50	15 - 30	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To								>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
										Percent Retained		Percent Passing				Percent		µM/sec	pH	µmhos/cm	Percent	inches	inches								
CS5	15,367+00	15,375+00	2216	YERMO-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Arizo	H2	8	to 60	GP	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,370+00	15,490+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H1	0	to 9	SM	--	--	65 - 80	60 - 75	45 - 60	25 - 40	14	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,370+00	15,490+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H2	9	to 16	SM	--	15	70 - 80	60 - 75	45 - 65	25 - 40	14	--	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,370+00	15,490+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H3	16	to 31	GM	--	--	45 - 65	35 - 50	25 - 45	10 - 25	14	--	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,370+00	15,490+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Sanwell	H4	31	to 60	GM	--	--	35 - 60	25 - 50	15 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS5	15,370+00	15,490+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H1	0	to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,370+00	15,490+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H2	3	to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,370+00	15,490+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H3	6	to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,370+00	15,490+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H4	8	to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,370+00	15,490+00	2221	SANWELL-GREYEAGLE ASSOCIATION	Greyeagle	H5	24	to 60	GM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	15,490+00	15,538+00	2372	ZALDA-BLUEPOINT-ROCK OUTCROP ASSOCIATION	Zalda	H1	0	to 3	GM	--	10	60 - 80	50 - 75	40 - 55	15 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS5	15,490+00	15,538+00	2372	ZALDA-BLUEPOINT-ROCK OUTCROP ASSOCIATION	Zalda	H2	3	to 7	SM	--	10	75 - 95	70 - 90	55 - 70	25 - 50	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS5	15,490+00	15,538+00	2372	ZALDA-BLUEPOINT-ROCK OUTCROP ASSOCIATION	Zalda	H3	7	to 8		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS5	15,490+00	15,538+00	2372	ZALDA-BLUEPOINT-ROCK OUTCROP ASSOCIATION	Zalda	H4	8	to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS5	15,490+00	15,538+00	2372	ZALDA-BLUEPOINT-ROCK OUTCROP ASSOCIATION	Bluepoint	H1	0	to 9	SM	--	--	100 - 100	100 - 100	75 - 85	25 - 45	-	--	42 - 141	7.4 - 9.0	0 - 2	0.0 - 2.9	--	8	--	Low	High	High	--	Very limited	Poor-Fair	Poor
CS5	15,490+00	15,538+00	2372	ZALDA-BLUEPOINT-ROCK OUTCROP ASSOCIATION	Bluepoint	H2	9	to 17	SM	--	--	70 - 100	60 - 90	55 - 85	10 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	8	--	Low	High	High	--	Very limited	Poor-Fair	Poor
CS5	15,490+00	15,538+00	2372	ZALDA-BLUEPOINT-ROCK OUTCROP ASSOCIATION	Bluepoint	H3	17	to 41	SM	--	--	100 - 100	100 - 100	65 - 85	25 - 45	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	8	--	Low	High	High	--	Very limited	Poor-Fair	Poor
CS5	15,490+00	15,538+00	2372	ZALDA-BLUEPOINT-ROCK OUTCROP ASSOCIATION	Bluepoint	H4	41	to 60	ML	--	--	100 - 100	100 - 100	50 - 90	30 - 60	-	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	8	--	Low	High	High	--	Very limited	Poor-Fair	Poor
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Greyeagle	H1	0	to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Greyeagle	H2	3	to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Greyeagle	H3	6	to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Greyeagle	H4	8	to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Skelon	H1	0	to 4	GM	--	10	35 - 55	25 - 50	20 - 40	10 - 20	-	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Skelon	H2	4	to 28	GM	--	10	35 - 55	25 - 50	15 - 35	5 - 15	-	--	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Skelon	H3	28	to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Skelon	H4	44	to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	-	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Skelon	H5	52	to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	-	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS5	15,538+00	15,587+00	2267	GREYEAGLE-SKELON ASSOCIATION	Greyeagle	H5	24	to 60	GP-GM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS5	15,587+00	15,690+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H1	0	to 4	SM	--	5	60 - 80	50 - 75	40 - 60	15 - 35	14	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,587+00	15,690+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H2	4	to 28	GM	5	10	35 - 55	30 - 50	15 - 35	10 - 20	14	--	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,587+00	15,690+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H3	28	to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,587+00	15,690+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H4	44	to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	14	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,587+00	15,690+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H5	52	to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,587+00	15,690+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H1	0	to 1	SM	--	--	70 - 85	60 - 75	40 - 55	20 - 30	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,587+00	15,690+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H2	1	to 24	SM	--	--	90 - 100	85 - 100	55 - 80	20 - 30	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,587+00	15,690+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H3	24	to 25		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,587+00	15,690+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H4	25	to 60	GM	--	--	35 - 45	25 - 35	20 - 30	10 - 15	-	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,657+00	15,852+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H1	0	to 4	SM	--	5	60 - 80	50 - 75	40 - 60	15 - 35	14	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,657+00	15,852+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H2	4	to 28	GM	5	10	35 - 55	30 - 50	15 - 35	10 - 20	14	--	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,657+00	15,852+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H3	28	to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,657+00	15,852+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H4	44	to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	14	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,657+00	15,852+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H5	52	to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,657+00	15,852+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H1	0	to 1	SM	--	--	70 - 85	60 - 75	40 - 55	20 - 30	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,657+00	15,852+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H2	1	to 24	SM	--	--	90 - 100	85 - 100	55 - 80	20 - 30	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,657+00	15,852+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H3	24	to 25		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,657+00	15,852+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H4	25	to 60	GM	--	--	35 - 45	25 - 35	20 - 30	10 - 15	-	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,690+00	15,657+00	2611	CORBILT VERY GRAVELLY SANDY LOAM, 0 TO 8 PERCENT SLOPES	Corbilt	H1	0	to 4	GM	--	10	30 - 55	25 - 50	15 - 35	10 - 25	-	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS5	15,690+00	15,657+00	2611	CORBILT VERY GRAVELLY SANDY LOAM, 0 TO 8 PERCENT SLOPES	Corbilt	H2	4	to 32	SM	--	--	65 - 80	55 - 75	45 - 65	20 - 45	-	--	14 - 42	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS5	15,690+00	15,657+00	2611	CORBILT VERY GRAVELLY SANDY LOAM, 0 TO 8 PERCENT SLOPES	Corbilt	H3	32	to 56	SM	--	10 - 25	60 - 70	50 - 60	35 - 55	20 - 30	-	--	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS5	15,690+00	15,657+00	2611	CORBILT VERY GRAVELLY SANDY LOAM, 0 TO 8 PERCENT SLOPES	Corbilt	H4	56	to 60		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS5	15,690+00	15,657+00	2611	CORBILT VERY GRAVELLY SANDY LOAM, 0 TO 8 PERCENT SLOPES	Playas	H1	0	to 6	ML	--	--	100 - 100	100 - 100	100 - 100	90 - 100	35 - 50	10 - 20	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	--	--	--				--	Not limited	Poor	Poor
CS5	15,690+00	15,657+00	2611	CORBILT VERY GRAVELLY SANDY LOAM, 0 TO 8 PERCENT SLOPES	Playas	H2	6	to 60	MH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	--	--	--				--	Not limited	Poor	Poor
CS5	15,852+00	15,862+00	2900	PLAYAS	Playas	H1	0	to 6	MH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	50 - 80	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Not rated	Poor	Poor
CS5	15,852+00	15,862+00	2900	PLAYAS	Playas	H2	6	to 60	CH	--	--	100 - 100	100 - 100	100 - 100	90 - 100	45 - 75	20 - 40	0 -	8.5 - 9.6	16 - 32	6.0 - 8.9	0	--	--	None	High	High	--	Not rated	Poor	Poor
CS5	15,862+00	15,972+00	2212	YERMO-BULLFOR ASSOCIATION	Yermo	H1	0	to 6	GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent		µM/sec	pH	µmhos/cm	Percent	inches	inches								
CS5	15,862+00	15,972+00	2212	YERMO-BULLFOR ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,862+00	15,972+00	2212	YERMO-BULLFOR ASSOCIATION	Bullfor	H1	0 to 1	SM	--	--	70 - 85	60 - 75	40 - 55	20 - 30	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,862+00	15,972+00	2212	YERMO-BULLFOR ASSOCIATION	Bullfor	H2	1 to 24	SM	--	--	90 - 100	85 - 100	55 - 80	20 - 30	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,862+00	15,972+00	2212	YERMO-BULLFOR ASSOCIATION	Bullfor	H3	24 to 25		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,862+00	15,972+00	2212	YERMO-BULLFOR ASSOCIATION	Bullfor	H4	25 to 60	GM	--	--	35 - 45	25 - 35	20 - 30	10 - 15	-	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,972+00	16,030+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H1	0 to 4	SM	--	5	60 - 80	50 - 75	40 - 60	15 - 35	14	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,972+00	16,030+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H2	4 to 28	GM	5	10	35 - 55	30 - 50	15 - 35	10 - 20	14	--	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,972+00	16,030+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H3	28 to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,972+00	16,030+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H4	44 to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	14	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,972+00	16,030+00	2184	SKELON-BULLFOR ASSOCIATION	Skelon	H5	52 to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	15,972+00	16,030+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H1	0 to 1	SM	--	--	70 - 85	60 - 75	40 - 55	20 - 30	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,972+00	16,030+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H2	1 to 24	SM	--	--	90 - 100	85 - 100	55 - 80	20 - 30	-	--	42 - 141	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,972+00	16,030+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H3	24 to 25		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	15,972+00	16,030+00	2184	SKELON-BULLFOR ASSOCIATION	Bullfor	H4	25 to 60	GM	--	--	35 - 45	25 - 35	20 - 30	10 - 15	-	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	None	Low	High	--	Not limited	Fair	Fair
CS5	16,030+00	16,050+00	2215	YERMO-GREYEAGLE ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	16,030+00	16,050+00	2215	YERMO-GREYEAGLE ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS5	16,030+00	16,050+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	16,030+00	16,050+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	16,030+00	16,050+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	16,030+00	16,050+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
CS5	16,030+00	16,050+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H5	24 to 60	GM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
Common Segment 6																														
CS6	16,450+00	16,466+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H1	0 to 4	SM	--	--	65 - 80	55 - 75	50 - 65	20 - 45	-	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS6	16,450+00	16,466+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H2	4 to 32	SM	--	--	65 - 80	55 - 75	45 - 65	20 - 45	-	--	14 - 42	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS6	16,450+00	16,466+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H3	32 to 56	SM	--	10 - 25	60 - 70	50 - 60	35 - 55	20 - 30	-	--	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS6	16,450+00	16,466+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H4	56 to 60		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
CS6	16,450+00	16,466+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H1	0 to 3	SM	--	--	75 - 90	60 - 75	40 - 55	20 - 35	14	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS6	16,450+00	16,466+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H2	3 to 8	SC	--	--	75 - 90	50 - 75	45 - 60	35 - 50	30 - 50	10 - 25	1 - 4	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS6	16,450+00	16,466+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H3	8 to 60	SM	--	--	70 - 85	50 - 75	10 - 30	5 - 20	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
CS6	16,450+00	16,466+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	16,450+00	16,466+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H2	8 to 60	GP	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H1	0 to 3	SM	--	5	85 - 95	55 - 70	35 - 60	20 - 30	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H2	3 to 18	SM	--	10	85 - 95	55 - 75	25 - 35	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H3	18 to 60	SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H1	0 to 2	GM	--	5	35 - 60	25 - 50	15 - 30	5 - 15	-	--	14 - 42	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H2	2 to 30	CL-ML	--	--	95 - 100	85 - 100	60 - 75	35 - 65	15 - 25	0 - 10	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H3	30 to 31		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H4	31 to 60	SM	--	--	95 - 100	85 - 100	60 - 70	35 - 45	-	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,466+00	16,550+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H5	24 to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,550+00	16,580+00	2500	COMMSKI-GREYEAGLE ASSOCIATION	Commski	H1	0 to 5	GM	5	10	35 - 55	25 - 50	20 - 40	10 - 30	25 - 30	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
CS6	16,550+00	16,580+00	2500	COMMSKI-GREYEAGLE ASSOCIATION	Commski	H2	5 to 14	GW-GM	5	10	25 - 35	15 - 25	10 - 20	5 - 10	25 - 30	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
CS6	16,550+00	16,580+00	2500	COMMSKI-GREYEAGLE ASSOCIATION	Commski	H3	14 to 60	GW-GM	5	5 - 20	25 - 35	15 - 25	10 - 20	5 - 10	25 - 30	0 - 5	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
CS6	16,550+00	16,580+00	2500	COMMSKI-GREYEAGLE ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,550+00	16,580+00	2500	COMMSKI-GREYEAGLE ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,550+00	16,580+00	2500	COMMSKI-GREYEAGLE ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,550+00	16,580+00	2500	COMMSKI-GREYEAGLE ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,550+00	16,580+00	2500	COMMSKI-GREYEAGLE ASSOCIATION	Greyeagle	H5	24 to 60	GM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H1	0 to 3	SM	--	5	85 - 95	55 - 70	35 - 60	20 - 30	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H2	3 to 18	SM	--	10	85 - 95	55 - 75	25 - 35	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H3	18 to 60	SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H1	0 to 2	GM	--	5	35 - 60	25 - 50	15 - 30	5 - 15	-	--	14 - 42	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H2	2 to 30	CL-ML	--	--	95 - 100	85 - 100	60 - 75	35 - 65	15 - 25	0 - 10	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H3	30 to 31		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H4	31 to 60	SM	--	--	95 - 100	85 - 100	60 - 70	35 - 45	-	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,580+00	16,620+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H5	24 to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	16,620+00	16,694+00	2282	DEDAS-ORWASH ASSOCIATION	Dedas	H1	0 to 3	GM	--	5	40 - 55	25 - 50	15 - 30	10 - 20	14	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	17	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,620+00	16,694+00	2282	DEDAS-ORWASH ASSOCIATION	Dedas	H2	3 to 15	GC-GM	--	5	40 - 55	25 - 50	15 - 40	5 - 30	20 - 30	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	17	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,620+00	16,694+00	2282	DEDAS-ORWASH ASSOCIATION	Dedas	H3	15 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	17	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,620+00	16,694+00	2282	DEDAS-ORWASH ASSOCIATION	Dedas	H4	17 to 27		-	-	-	-	-	-	-	-	0.01	-	-	-	--	17	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,620+00	16,694+00	2282	DEDAS-ORWASH ASSOCIATION	Orwash	H1	0 to 3	SM	--	5	85 - 95	55 - 70	35 - 60	20 - 30	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	17	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS6	16,620+00	16,694+00	2282	DEDAS-ORWASH ASSOCIATION	Orwash	H2	3 to 18	SM	--	10	85 - 95	55 - 75	25 - 35	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	17	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS6	16,620+00	16,694+00	2282	DEDAS-ORWASH ASSOCIATION	Orwash	H3	18 to 60	SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	17	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Zibate	H1	0 to 6	GM	--	15	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	12	--		Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Zibate	H2	6 to 19	GC	5	25	15 - 30	10 - 25	5 - 20	5 - 20	25 - 35	5 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	12	--		Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Zibate	H3	19 to 23		-	-	-	-	-	-	-	-	0.01	-	-	-	--	12	--		Low	High	--	Very limited	Fair-Poor	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	Inches	Inches								
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Zyplar	H1	0 to 7	SC-SM	5 - 10	10	70 - 85	60 - 80	45 - 65	25 - 40	15 - 25	0 - 10	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	12	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Zyplar	H2	7 to 12	GC	--	10	65 - 80	55 - 75	50 - 60	35 - 45	30 - 45	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	12	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Zyplar	H3	12 to 16		-	-	-	-	-	-	-	-	0.01	-	-	-	--	12	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Dedas	H1	0 to 3	GM	--	5	40 - 55	25 - 50	15 - 30	10 - 20	14	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	12	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Dedas	H2	3 to 15	GW-GM	--	5	40 - 55	25 - 50	15 - 40	5 - 30	20 - 30	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	12	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Dedas	H3	15 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	12	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,694+00	16,855+00	2431	ZIBATE-ZYPLAR-DEDAS ASSOCIATION	Dedas	H4	17 to 27		-	-	-	-	-	-	-	-	0.01	-	-	-	--	12	--	Low	Low	High	--	Very limited	Poor	Poor
CS6	16,694+00	16,855+00	2431	Rose Creek loam, 0 to 2 percent slopes, frequently flooded	Rose Creek	H1	0 to 11	ML	--	--	95 - 100	90 - 100	80 - 90	60 - 70	25 - 30	0 - 5	4 - 14	7.9 - 8.4	2 - 4	0.0 - 2.9	27	--	--	High	Low	High	--	Very limited	Poor-Fair	Poor
CS6	16,694+00	16,855+00	2431	Rose Creek loam, 0 to 2 percent slopes, frequently flooded	Rose Creek	H2	11 to 60	SM	--	5	85 - 100	70 - 95	50 - 70	30 - 40	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	27	--	--	High	Low	High	--	Very limited	Poor-Fair	Poor
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Orwash	H1	0 to 3	SM	--	5	85 - 95	55 - 70	35 - 60	20 - 30	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Orwash	H2	3 to 18	SM	--	10	85 - 95	55 - 75	25 - 35	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Orwash	H3	18 to 60	SP-SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Wilst	H1	0 to 4	GP-GM	--	5	40 - 55	25 - 45	15 - 30	5 - 10	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Wilst	H2	4 to 10	SM	--	5	60 - 80	50 - 75	35 - 50	15 - 20	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Wilst	H3	10 to 33	GM	--	5	40 - 55	25 - 50	15 - 40	5 - 15	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Wilst	H4	33 to 43		-	-	-	-	-	-	-	-	0.01	-	-	-	--	33	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Agon	H1	0 to 3	GM	--	5	40 - 50	35 - 45	20 - 30	10 - 15	-	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Agon	H2	3 to 32	SM	--	--	55 - 80	50 - 75	40 - 60	5 - 20	-	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Agon	H3	32 to 33		-	-	-	-	-	-	-	-	0.01	-	-	-	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,855+00	16,877+00	2421	ORWASH-WILST-AGON COMPLEX	Agon	H4	33 to 37		-	-	-	-	-	-	-	-	0.01	-	-	-	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,877+00	16,931+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H1	0 to 3	GM	--	5	55 - 80	50 - 75	40 - 60	25 - 40	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	16,877+00	16,931+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H2	3 to 8	GC-GM	--	--	55 - 80	50 - 75	45 - 65	35 - 50	15 - 25	0 - 10	4 - 14	8.5 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	16,877+00	16,931+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H3	8 to 16	GM	--	--	30 - 55	25 - 50	15 - 35	10 - 20	14	--	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	16,877+00	16,931+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H4	16 to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	16,877+00	16,931+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H5	20 to 45		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Orwash	H1	0 to 3	SM	--	5	85 - 95	55 - 70	35 - 60	20 - 30	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Orwash	H2	3 to 18	SM	--	10	85 - 95	55 - 75	25 - 35	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Orwash	H3	18 to 60	SP-SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Wilst	H1	0 to 4	GP-GM	--	5	40 - 55	25 - 45	15 - 30	5 - 10	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Wilst	H2	4 to 10	SM	--	5	60 - 80	50 - 75	35 - 50	15 - 20	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Wilst	H3	10 to 33	GM	--	5	40 - 55	25 - 50	15 - 40	5 - 15	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Wilst	H4	33 to 43		-	-	-	-	-	-	-	-	0.01	-	-	-	--	33	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Agon	H1	0 to 3	GM	--	5	40 - 50	35 - 45	20 - 30	10 - 15	-	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Agon	H2	3 to 32	SM	--	--	55 - 80	50 - 75	40 - 60	5 - 20	-	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Agon	H3	32 to 33		-	-	-	-	-	-	-	-	0.01	-	-	-	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,931+00	16,970+00	2421	ORWASH-WILST-AGON COMPLEX	Agon	H4	33 to 37		-	-	-	-	-	-	-	-	0.01	-	-	-	--	33	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H1	0 to 3	GM	--	10	60 - 80	50 - 75	40 - 55	15 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H2	3 to 7	SM	--	10	75 - 95	70 - 90	55 - 70	25 - 50	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H3	7 to 8		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H4	8 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H1	0 to 2	GM	--	10	35 - 50	25 - 40	15 - 30	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H2	2 to 12	GM	--	25	40 - 55	35 - 50	25 - 40	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H3	12 to 22		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,970+00	16,976+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H5	24 to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	16,976+00	17,137+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H1	0 to 3	GM	--	5	55 - 80	50 - 75	40 - 60	25 - 40	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	16,976+00	17,137+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H2	3 to 8	GC-GM	--	--	55 - 80	50 - 75	45 - 65	35 - 50	15 - 25	0 - 10	4 - 14	8.5 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	16,976+00	17,137+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H3	8 to 16	GM	--	--	30 - 55	25 - 50	15 - 35	10 - 20	14	--	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	16,976+00	17,137+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H4	16 to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	16,976+00	17,137+00	2010	LONGJIM GRAVELLY FINE SANDY LOAM, 4 TO 15 PERCENT SLOPES	Longjim	H5	20 to 45		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,137+00	17,170+00	2214	YERMO-ARIZO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,137+00	17,170+00	2214	YERMO-ARIZO ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,137+00	17,170+00	2214	YERMO-ARIZO ASSOCIATION	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,137+00	17,170+00	2214	YERMO-ARIZO ASSOCIATION	Arizo	H2	8 to 60	GP-GM	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
CS6	17,170+00	17,196+00	2260	GREYEAGLE VERY GRAVELLY SANDY LOAM, 2 TO 8 PERCENT SLOPES	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,170+00	17,196+00	2260	GREYEAGLE VERY GRAVELLY SANDY LOAM, 2 TO 8 PERCENT SLOPES	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,170+00	17,196+00	2260	GREYEAGLE VERY GRAVELLY SANDY LOAM, 2 TO 8 PERCENT SLOPES	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,170+00	17,196+00	2260	GREYEAGLE VERY GRAVELLY SANDY LOAM, 2 TO 8 PERCENT SLOPES	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,170+00	17,196+00	2260	GREYEAGLE VERY GRAVELLY SANDY LOAM, 2 TO 8 PERCENT SLOPES	Greyeagle	H5	24 to 60	SP-SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Sanwell	H1	0 to 9	SM	--	--	65 - 80	60 - 75	45 - 60	25 - 40	14	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Somewhat limited	Fair	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Sanwell	H2	9 to 16	SM	--	15	70 - 80	60 - 75	45 - 65	25 - 40	14	--	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Somewhat limited	Fair	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Sanwell	H3	16 to 31	GM	--	--	45 - 65	35 - 50	25 - 45	10 - 25	14	--	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Somewhat limited	Fair	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Sanwell	H4	31 to 60	GM	--	--	35 - 60	25 - 50	15 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Somewhat limited	Fair	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,196+00	17,280+00	2263	GREYEAGLE-SANWELL-YERMO ASSOCIATION	Greyeagle	H5	24 to 60	SP-SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
CS6	17,280+00	17,347+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H1	0 to 9	SM	--	--	65 - 80	60 - 75	45 - 60	25 - 40	14	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,280+00	17,347+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H2	9 to 16	SM	--	15	70 - 80	60 - 75	45 - 65	25 - 40	14	--	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,280+00	17,347+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H3	16 to 31	GM	--	--	45 - 65	35 - 50	25 - 45	10 - 25	14	--	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,280+00	17,347+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H4	31 to 60	GM	--	--	35 - 60	25 - 50	15 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,280+00	17,347+00	2172	SANWELL-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,280+00	17,347+00	2172	SANWELL-YERMO ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H1	0 to 3	GM	--	10	60 - 80	50 - 75	40 - 55	15 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H2	3 to 7	SM	--	10	75 - 95	70 - 90	55 - 70	25 - 50	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H3	7 to 8		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H4	8 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H1	0 to 2	GM	--	10	35 - 50	25 - 40	15 - 30	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H2	2 to 12	GM	--	25	40 - 55	35 - 50	25 - 40	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H3	12 to 22		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,347+00	17,360+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H5	24 to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,360+00	17,503+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H1	0 to 9	SM	--	--	65 - 80	60 - 75	45 - 60	25 - 40	14	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,360+00	17,503+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H2	9 to 16	SM	--	15	70 - 80	60 - 75	45 - 65	25 - 40	14	--	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,360+00	17,503+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H3	16 to 31	GM	--	--	45 - 65	35 - 50	25 - 45	10 - 25	14	--	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,360+00	17,503+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H4	31 to 60	GM	--	--	35 - 60	25 - 50	15 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,360+00	17,503+00	2172	SANWELL-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,360+00	17,503+00	2172	SANWELL-YERMO ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,503+00	17,518+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H1	0 to 3	GM	--	10	35 - 60	25 - 55	20 - 45	10 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,503+00	17,518+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H2	3 to 10	SM	--	5	65 - 75	55 - 65	35 - 45	20 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,503+00	17,518+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H3	10 to 21	GM	--	10	30 - 65	25 - 55	15 - 40	5 - 20	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,503+00	17,518+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H4	21 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,503+00	17,518+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H5	24 to 28		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,503+00	17,518+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,503+00	17,518+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,518+00	17,543+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H1	0 to 9	SM	--	--	65 - 80	60 - 75	45 - 60	25 - 40	14	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,518+00	17,543+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H2	9 to 16	SM	--	15	70 - 80	60 - 75	45 - 65	25 - 40	14	--	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,518+00	17,543+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H3	16 to 31	GM	--	--	45 - 65	35 - 50	25 - 45	10 - 25	14	--	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,518+00	17,543+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H4	31 to 60	GM	--	--	35 - 60	25 - 50	15 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,518+00	17,543+00	2172	SANWELL-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,518+00	17,543+00	2172	SANWELL-YERMO ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H1	0 to 3	GM	--	10	60 - 80	50 - 75	40 - 55	15 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H2	3 to 7	SM	--	10	75 - 95	70 - 90	55 - 70	25 - 50	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H3	7 to 8		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H4	8 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H1	0 to 2	GM	--	10	35 - 50	25 - 40	15 - 30	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H2	2 to 12	GM	--	25	40 - 55	35 - 50	25 - 40	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H3	12 to 22		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,543+00	17,550+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H5	24 to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,550+00	17,578+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H1	0 to 3	GM	--	10	35 - 60	25 - 55	20 - 45	10 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,550+00	17,578+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H2	3 to 10	SM	--	5	65 - 75	55 - 65	35 - 45	20 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,550+00	17,578+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H3	10 to 21	GM	--	10	30 - 65	25 - 55	15 - 40	5 - 20	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,550+00	17,578+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H4	21 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,550+00	17,578+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H5	24 to 28		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,550+00	17,578+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,550+00	17,578+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H1	0 to 3	GM	--	10	60 - 80	50 - 75	40 - 55	15 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H2	3 to 7	SM	--	10	75 - 95	70 - 90	55 - 70	25 - 50	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H3	7 to 8		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H4	8 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H1	0 to 2	GM	--	10	35 - 50	25 - 40	15 - 30	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H2	2 to 12	GM	--	25	40 - 55	35 - 50	25 - 40	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H3	12 to 22		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,578+00	17,620+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H5	24 to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,620+00	17,641+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H1	0 to 9	SM	--	--	65 - 80	60 - 75	45 - 60	25 - 40	14	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,620+00	17,641+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H2	9 to 16	SM	--	15	70 - 80	60 - 75	45 - 65	25 - 40	14	--	14 - 42	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,620+00	17,641+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H3	16 to 31	GM	--	--	45 - 65	35 - 50	25 - 45	10 - 25	14	--	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,620+00	17,641+00	2172	SANWELL-YERMO ASSOCIATION	Sanwell	H4	31 to 60	GM	--	--	35 - 60	25 - 50	15 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Not limited	Fair	Fair
CS6	17,620+00	17,641+00	2172	SANWELL-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,620+00	17,641+00	2172	SANWELL-YERMO ASSOCIATION	Yermo	H2	6 to 60	GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H1	0 to 3	GM	--	10	60 - 80	50 - 75	40 - 55	15 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H2	3 to 7	SM	--	10	75 - 95	70 - 90	55 - 70	25 - 50	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H3	7 to 8		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H4	8 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H1	0 to 2	GM	--	10	35 - 50	25 - 40	15 - 30	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H2	2 to 12	GM	--	25	40 - 55	35 - 50	25 - 40	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H3	12 to 22		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,641+00	17,656+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H5	24 to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,656+00	17,688+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H1	0 to 3	GM	--	10	35 - 60	25 - 55	20 - 45	10 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,656+00	17,688+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H2	3 to 10	SM	--	5	65 - 75	55 - 65	35 - 45	20 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,656+00	17,688+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H3	10 to 21	GM	--	10	30 - 65	25 - 55	15 - 40	5 - 20	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,656+00	17,688+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H4	21 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,656+00	17,688+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H5	24 to 28		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,656+00	17,688+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,656+00	17,688+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H1	0 to 3	GM	--	10	60 - 80	50 - 75	40 - 55	15 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H2	3 to 7	SM	--	10	75 - 95	70 - 90	55 - 70	25 - 50	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H3	7 to 8		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Zalda	H4	8 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Poor	Poor
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H1	0 to 2	GM	--	10	35 - 50	25 - 40	15 - 30	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H2	2 to 12	GM	--	25	40 - 55	35 - 50	25 - 40	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Upspring	H3	12 to 22		-	-	-	-	-	-	-	-	0.01	-	-	-	--	8	--	None	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,688+00	17,731+00	2012	ZALDA-GREYEAGLE-UPSPRING ASSOCIATION	Greyeagle	H5	24 to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	8	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
CS6	17,731+00	17,753+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H1	0 to 3	GM	--	10	35 - 60	25 - 55	20 - 45	10 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,731+00	17,753+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H2	3 to 10	SM	--	5	65 - 75	55 - 65	35 - 45	20 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,731+00	17,753+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H3	10 to 21	GM	--	10	30 - 65	25 - 55	15 - 40	5 - 20	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,731+00	17,753+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H4	21 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,731+00	17,753+00	2281	SHORIM-YERMO ASSOCIATION	Shorim	H5	24 to 28		-	-	-	-	-	-	-	-	0.01	-	-	-	--	24	--	None	Low	High	--	Somewhat limited	Poor	Poor
CS6	17,731+00	17,753+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,731+00	17,753+00	2281	SHORIM-YERMO ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	24	--	Low	Low	High	--	Somewhat limited	Fair	Fair
CS6	17,753+00	17,770+00	2054	YERMO, HOT-YERMO-ARIZO ASSOCIATION	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	Inches	Inches								
CS6	17,753+00	17,770+00	2054	YERMO, HOT-YERMO-ARIZO ASSOCIATION	Arizo	H2	8 to 60	GP-GM	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,753+00	17,770+00	2054	YERMO, HOT-YERMO-ARIZO ASSOCIATION	Yermo	H1	0 to 6	GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,753+00	17,770+00	2054	YERMO, HOT-YERMO-ARIZO ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,753+00	17,770+00	2054	YERMO, HOT-YERMO-ARIZO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,753+00	17,770+00	2054	YERMO, HOT-YERMO-ARIZO ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
CS6	17,770+00	18,193+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
Eccles																														
Eccles	20,000+00	20,023+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
Eccles	20,023+00	20,060+00	VM	Veet-Mosida association	Veet	H1	0 to 3	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,023+00	20,060+00	VM	Veet-Mosida association	Veet	H2	3 to 19	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,023+00	20,060+00	VM	Veet-Mosida association	Veet	H3	19 to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,023+00	20,060+00	VM	Veet-Mosida association	Mosida	H1	0 to 8	CL-ML	--	--	100 - 100	100 - 100	75 - 90	60 - 75	25 - 30	5 - 10	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,023+00	20,060+00	VM	Veet-Mosida association	Mosida	H2	8 to 60	CL-ML	--	--	100 - 100	80 - 100	60 - 85	55 - 75	15 - 30	0 - 10	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,023+00	20,060+00	VM	Veet-Mosida association	Typic Haplaquolls	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	--	--	--	High	Low	Moderate	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,023+00	20,060+00	VM	Veet-Mosida association	Typic Haplaquolls	H2	26 to 38	CL	--	--	100 - 100	90 - 100	80 - 90	65 - 80	30 - 40	10 - 20	1 - 4	6.1 - 7.3	--	3.0 - 5.9	--	--	--	High	Low	Moderate	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,023+00	20,060+00	VM	Veet-Mosida association	Typic Haplaquolls	H3	38 to 60	SM	5	15 - 20	70 - 85	65 - 80	35 - 50	15 - 25	-	--	14 - 42	6.6 - 7.3	--	0.0 - 2.9	--	--	--	High	Low	Moderate	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,060+00	20,238+00	LC	Linco-Acana association	Linco	H1	0 to 8	GM	--	--	60 - 80	50 - 75	35 - 65	20 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Very limited	Poor	Poor
Eccles	20,060+00	20,238+00	LC	Linco-Acana association	Linco	H2	8 to 25	GM	--	--	60 - 75	50 - 70	35 - 60	25 - 45	15 - 25	0 - 5	4 - 14	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Very limited	Poor	Poor
Eccles	20,060+00	20,238+00	LC	Linco-Acana association	Linco	H3	25 to 60	GM	--	--	60 - 75	50 - 70	35 - 60	20 - 45	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Very limited	Poor	Poor
Eccles	20,060+00	20,238+00	LC	Linco-Acana association	Acana	H1	0 to 3	GM	--	--	55 - 80	50 - 75	35 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.4 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
Eccles	20,060+00	20,238+00	LC	Linco-Acana association	Acana	H2	3 to 10	SC	--	--	80 - 100	75 - 100	45 - 60	35 - 45	25 - 35	5 - 15	1 - 4	8.5 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
Eccles	20,060+00	20,238+00	LC	Linco-Acana association	Acana	H3	10 to 17	GM	--	--	55 - 80	50 - 75	25 - 40	15 - 25	-	--	42 - 141	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
Eccles	20,060+00	20,238+00	LC	Linco-Acana association	Acana	H4	17 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
Eccles	20,060+00	20,238+00	LC	Linco-Acana association	Acana	H5	24 to 60	GM	--	--	50 - 75	45 - 70	30 - 45	10 - 20	-	--	42 - 141	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
Eccles	20,238+00	20,250+00	LD	Linco-Badland association	Linco	H1	0 to 8	GM	--	--	60 - 80	50 - 75	35 - 65	20 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	Linco-Badland association	Linco	H2	8 to 25	GM	--	--	60 - 75	50 - 70	35 - 60	25 - 45	15 - 25	0 - 5	4 - 14	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	Linco-Badland association	Linco	H3	25 to 60	GM	--	--	60 - 75	50 - 70	35 - 60	20 - 45	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	Linco-Badland association	Linco	H1	0 to 8	SM	--	--	60 - 80	50 - 75	35 - 65	20 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	Linco-Badland association	Linco	H2	8 to 25	GM	--	--	60 - 75	50 - 70	35 - 60	25 - 45	15 - 25	0 - 5	4 - 14	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	Linco-Badland association	Linco	H3	25 to 60	GM	--	--	60 - 75	50 - 70	35 - 60	20 - 45	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	Linco-Badland association	Badland	H1	0 to 2	MH	5	10	65 - 100	50 - 100	40 - 100	35 - 100	20 - 75	10 - 35	0 -	7.4 - 9.6	0 - 32	6.0 - 8.9	--	--	--	None	High	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	Linco-Badland association	Badland	H2	2 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	None	High	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	LEO-DELAMAR ASSOCIATION	LEO	H1	0 to 8	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,238+00	20,250+00	LD	LEO-DELAMAR ASSOCIATION	LEO	H2	8 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,238+00	20,250+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H1	0 to 4	SM	--	--	95 - 100	85 - 100	45 - 80	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H2	4 to 12	CL	--	5	65 - 100	60 - 90	50 - 80	30 - 55	30 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H3	12 to 20	GC	--	5	60 - 90	55 - 85	40 - 55	30 - 50	35 - 45	15 - 25	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H4	20 to 25	SM	--	--	60 - 80	50 - 75	30 - 50	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,238+00	20,250+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H5	25 to 29		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,250+00	20,302+00	BA	Badland	Badland	H1	0 to 2	CH	5	10	65 - 100	50 - 100	40 - 100	35 - 100	20 - 75	10 - 35	0 -	7.4 - 9.6	0 - 32	6.0 - 8.9	--	--	--	None	High	High	--	Not rated	Poor	Poor
Eccles	20,250+00	20,302+00	BA	Badland	Badland	H2	2 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	None	High	High	--	Not rated	Poor	Poor
Eccles	20,250+00	20,302+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H1	0 to 10	SM	--	--	100 - 100	100 - 100	70 - 80	30 - 55	20 - 25	0 - 5	4 - 14	8.5 - 9.6	16 - 32	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,250+00	20,302+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H2	10 to 50	CL	--	--	100 - 100	100 - 100	75 - 95	50 - 75	25 - 35	10 - 15	1 - 4	8.5 - 9.6	4 - 32	3.0 - 5.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,250+00	20,302+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H3	50 to 60	CL-ML	--	--	100 - 100	100 - 100	70 - 80	30 - 55	25 - 30	5 - 10	4 - 14	8.5 - 9.6	4 - 8	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,302+00	20,310+00	GM	Geer-Heist association	Geer	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,302+00	20,310+00	GM	Geer-Heist association	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	40 - 60	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,302+00	20,310+00	GM	Geer-Heist association	Heist	H1	0 to 12	GM	--	--	55 - 85	50 - 80	35 - 55	20 - 30	20 - 30	0 - 10	14 - 42	6.6 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,302+00	20,310+00	GM	Geer-Heist association	Heist	H2	12 to 42	GC-GM	--	--	55 - 95	50 - 90	35 - 65	20 - 35	20 - 30	0 - 10	14 - 42	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,302+00	20,310+00	GM	Geer-Heist association	Heist	H3	42 to 60	GM	--	--	40 - 85	35 - 80	20 - 55	5 - 35	20 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,302+00	20,310+00	GM	GEER SILT LOAM, WATER TABLE, MODERATELY SALINE	GEER	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	9.1 - 9.6	8 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,302+00	20,310+00	GM	GEER SILT LOAM, WATER TABLE, MODERATELY SALINE	GEER	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,310+00	20,342+00	BA	Badland	Badland	H1	0 to 2	CH	5	10	65 - 100	50 - 100	40 - 100	35 - 100	20 - 75	10 - 35	0 -	7.4 - 9.6	0 - 32	6.0 - 8.9	--	--	--	None	High	High	--	Not rated	Poor	Poor
Eccles	20,310+00	20,342+00	BA	Badland	Badland	H2	2 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	None	High	High	--	Not rated	Poor	Poor
Eccles	20,310+00	20,342+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H1	0 to 10	SM	--	--	100 - 100	100 - 100	70 - 80	30 - 55	20 - 25	0 - 5	4 - 14	8.5 - 9.6	16 - 32	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,310+00	20,342+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H2	10 to 50	CL	--	--	100 - 100	100 - 100	75 - 95	50 - 75	25 - 35	10 - 15	1 - 4	8.5 - 9.6	4 - 32	3.0 - 5.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,310+00	20,342+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H3	50 to 60	CL-ML	--	--	100 - 100	100 - 100	70 - 80	30 - 55	25 - 30	5 - 10	4 - 14	8.5 - 9.6	4 - 8	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,342+00	20,350+00	GM	Geer-Heist association	Geer	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,342+00	20,350+00	GM	Geer-Heist association	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	40 - 60	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,342+00	20,350+00	GM	Geer-Heist association	Heist	H1	0 to 12	GM	--	--	55 - 85	50 - 80	35 - 55	20 - 30	20 - 30	0 - 10	14 - 42	6.6 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
Eccles	20,342+00	20,350+00	GM	Geer-Heist association	Heist	H2	12 to 42	GC-GM	--	--	55 - 95	50 - 90	35 - 65	20 - 35	20 - 30	0 - 10	14 - 42	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,342+00	20,350+00	GM	Geer-Heist association	Heist	H3	42 to 60	GM	--	--	40 - 85	35 - 80	20 - 55	5 - 35	20 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,342+00	20,350+00	GM	GEER SILT LOAM, WATER TABLE, MODERATELY SALINE	GEER	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	9.1 - 9.6	8 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,342+00	20,350+00	GM	GEER SILT LOAM, WATER TABLE, MODERATELY SALINE	GEER	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,350+00	20,371+00	BA	Badland	Badland	H1	0 to 2	CH	5	10	65 - 100	50 - 100	40 - 100	35 - 100	20 - 75	10 - 35	0 -	7.4 - 9.6	0 - 32	6.0 - 8.9	--	--	--	None	High	High	--	Not rated	Poor	Poor
Eccles	20,350+00	20,371+00	BA	Badland	Badland	H2	2 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	None	High	High	--	Not rated	Poor	Poor
Eccles	20,350+00	20,371+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H1	0 to 10	SM	--	--	100 - 100	100 - 100	70 - 80	30 - 55	20 - 25	0 - 5	4 - 14	8.5 - 9.6	16 - 32	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,350+00	20,371+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H2	10 to 50	CL	--	--	100 - 100	100 - 100	75 - 95	50 - 75	25 - 35	10 - 15	1 - 4	8.5 - 9.6	4 - 32	3.0 - 5.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,350+00	20,371+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H3	50 to 60	CL-ML	--	--	100 - 100	100 - 100	70 - 80	30 - 55	25 - 30	5 - 10	4 - 14	8.5 - 9.6	4 - 8	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,371+00	20,388+00	GM	Geer-Heist association	Geer	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,371+00	20,388+00	GM	Geer-Heist association	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	40 - 60	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,371+00	20,388+00	GM	Geer-Heist association	Heist	H1	0 to 12	GM	--	--	55 - 85	50 - 80	35 - 55	20 - 30	20 - 30	0 - 10	14 - 42	6.6 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,371+00	20,388+00	GM	Geer-Heist association	Heist	H2	12 to 42	GC-GM	--	--	55 - 95	50 - 90	35 - 65	20 - 35	20 - 30	0 - 10	14 - 42	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,371+00	20,388+00	GM	Geer-Heist association	Heist	H3	42 to 60	GM	--	--	40 - 85	35 - 80	20 - 55	5 - 35	20 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,371+00	20,388+00	GM	GEER SILT LOAM, WATER TABLE, MODERATELY SALINE	GEER	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	9.1 - 9.6	8 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,371+00	20,388+00	GM	GEER SILT LOAM, WATER TABLE, MODERATELY SALINE	GEER	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,388+00	20,413+00	Gg	Geer silt loam, slightly saline	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 9.6	4 - 8	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Eccles	20,388+00	20,413+00	Gg	Geer silt loam, slightly saline	Geer	H2	14 to 60	SM	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.6	0 - 16	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Eccles	20,413+00	20,450+00	GM	Geer-Heist association	Geer	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,413+00	20,450+00	GM	Geer-Heist association	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	40 - 60	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,413+00	20,450+00	GM	Geer-Heist association	Heist	H1	0 to 12	GM	--	--	55 - 85	50 - 80	35 - 55	20 - 30	20 - 30	0 - 10	14 - 42	6.6 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,413+00	20,450+00	GM	Geer-Heist association	Heist	H2	12 to 42	GC-GM	--	--	55 - 95	50 - 90	35 - 65	20 - 35	20 - 30	0 - 10	14 - 42	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,413+00	20,450+00	GM	Geer-Heist association	Heist	H3	42 to 60	GM	--	--	40 - 85	35 - 80	20 - 55	5 - 35	20 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Very limited	Poor-Fair	Poor
Eccles	20,413+00	20,450+00	GM	GEER SILT LOAM, WATER TABLE, MODERATELY SALINE	GEER	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	9.1 - 9.6	8 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,413+00	20,450+00	GM	GEER SILT LOAM, WATER TABLE, MODERATELY SALINE	GEER	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor	Poor
Eccles	20,450+00	20,460+00	Gf	Geer silt loam	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,450+00	20,460+00	Gf	Geer silt loam	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	40 - 60	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
Eccles	20,450+00	20,460+00	Gf	GEER FINE SANDY LOAM, SLIGHTLY SALINE	GEER	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	7.9 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,450+00	20,460+00	Gf	GEER FINE SANDY LOAM, SLIGHTLY SALINE	GEER	H2	14 to 60	ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,460+00	20,467+00	Gk	Geer silt loam, wet	Geer	H1	0 to 4	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	15 - 30	0 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Eccles	20,460+00	20,467+00	Gk	Geer silt loam, wet	Geer	H2	4 to 29	ML	--	--	100 - 100	100 - 100	85 - 95	50 - 65	15 - 30	0 - 10	4 - 14	7.9 - 9.0	4 - 16	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Eccles	20,460+00	20,467+00	Gk	Geer silt loam, wet	Geer	H3	29 to 37	CL-ML	--	--	100 - 100	100 - 100	85 - 95	50 - 65	15 - 30	0 - 10	1 - 4	7.9 - 9.0	4 - 16	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Eccles	20,460+00	20,467+00	Gk	Geer silt loam, wet	Geer	H4	37 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	50 - 65	15 - 30	0 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Eccles	20,460+00	20,467+00	Gk	Geer silt loam, wet	Geer	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	42	--	--				--	Very limited	Poor	Poor
Eccles	20,460+00	20,467+00	Gk	GEER SILT LOAM	GEER	H1	0 to 14	ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,460+00	20,467+00	Gk	GEER SILT LOAM	GEER	H2	14 to 60	SM	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,460+00	20,467+00	Gk	GEER SILT LOAM	GEER	H3	60 to 72	CL-ML	--	--	60 - 90	55 - 90	45 - 90	25 - 70	20 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,467+00	20,493+00	Pd	Pahranagat silt loam, strongly saline	Pahranagat	H1	0 to 15	CL	--	--	100 - 100	100 - 100	95 - 100	80 - 90	35 - 40	10 - 15	4 - 14	7.9 - 9.0	16 - 32	3.0 - 5.9	24	--	--	High	High	High	--	Very limited	Poor	Poor
Eccles	20,467+00	20,493+00	Pd	Pahranagat silt loam, strongly saline	Pahranagat	H2	15 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 50	10 - 20	1 - 4	7.9 - 9.0	4 - 8	3.0 - 5.9	24	--	--	High	High	High	--	Very limited	Poor	Poor
Eccles	20,467+00	20,493+00	Pd	PAHRANAGAT SILT LOAM, SLIGHTLY SALINE	PAHRANAGAT	H1	0 to 10	CL	--	--	100 - 100	100 - 100	95 - 100	80 - 90	35 - 40	10 - 15	4 - 14	7.9 - 9.0	4 - 8	3.0 - 5.9	27	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Eccles	20,467+00	20,493+00	Pd	PAHRANAGAT SILT LOAM, SLIGHTLY SALINE	PAHRANAGAT	H2	10 to 60	ML	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 50	10 - 20	1 - 4	7.9 - 9.0	2 - 4	3.0 - 5.9	27	--	--	High	Moderate	High	--	Very limited	Poor	Poor
Eccles	20,493+00	20,505+00	BA	Badland	Badland	H1	0 to 2	CH	5	10	65 - 100	50 - 100	40 - 100	35 - 100	20 - 75	10 - 35	0 -	7.4 - 9.6	0 - 32	6.0 - 8.9	--	--	--	None	High	High	--	Not rated	Poor	Poor
Eccles	20,493+00	20,505+00	BA	Badland	Badland	H2	2 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	None	High	High	--	Not rated	Poor	Poor
Eccles	20,493+00	20,505+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H1	0 to 10	SM	--	--	100 - 100	100 - 100	70 - 80	30 - 55	20 - 25	0 - 5	4 - 14	8.5 - 9.6	16 - 32	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,493+00	20,505+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H2	10 to 50	CL	--	--	100 - 100	100 - 100	75 - 95	50 - 75	25 - 35	10 - 15	1 - 4	8.5 - 9.6	4 - 32	3.0 - 5.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,493+00	20,505+00	BA	BASTIAN FINE SANDY LOAM, STRONGLY SALINE	BASTIAN	H3	50 to 60	CL-ML	--	--	100 - 100	100 - 100	70 - 80	30 - 55	25 - 30	5 - 10	4 - 14	8.5 - 9.6	4 - 8	0.0 - 2.9	48	--	--	None	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,505+00	20,537+00	CG	Cliffdown-Geer association	Cliffdown	H1	0 to 2	SM	--	5	70 - 80	65 - 75	40 - 50	20 - 30	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,505+00	20,537+00	CG	Cliffdown-Geer association	Cliffdown	H2	2 to 60	GM	--	5	45 - 55	40 - 50	30 - 40	15 - 30	14	--	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,505+00	20,537+00	CG	Cliffdown-Geer association	Geer	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,505+00	20,537+00	CG	Cliffdown-Geer association	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	40 - 60	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	Linco-Badland association	Linco	H1	0 to 8	GM	--	--	60 - 80	50 - 75	35 - 65	20 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	Linco-Badland association	Linco	H2	8 to 25	GM	--	--	60 - 75	50 - 70	35 - 60	25 - 45	15 - 25	0 - 5	4 - 14	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	Linco-Badland association	Linco	H3	25 to 60	GM	--	--	60 - 75	50 - 70	35 - 60	20 - 45	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Badrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
Eccles	20,537+00	20,544+00	LD	Linco-Badland association	Linco	H1	0 to 8	SM	--	--	60 - 80	50 - 75	35 - 65	20 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	Linco-Badland association	Linco	H2	8 to 25	GM	--	--	60 - 75	50 - 70	35 - 60	25 - 45	15 - 25	0 - 5	4 - 14	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	Linco-Badland association	Linco	H3	25 to 60	GM	--	--	60 - 75	50 - 70	35 - 60	20 - 45	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	Linco-Badland association	Badland	H1	0 to 2	MH	5	10	65 - 100	50 - 100	40 - 100	35 - 100	20 - 75	10 - 35	0 -	7.4 - 9.6	0 - 32	6.0 - 8.9	--	--	--	None	High	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	Linco-Badland association	Badland	H2	2 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	None	High	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	LEO-DELAMAR ASSOCIATION	LEO	H1	0 to 8	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,537+00	20,544+00	LD	LEO-DELAMAR ASSOCIATION	LEO	H2	8 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,537+00	20,544+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H1	0 to 4	SM	--	--	95 - 100	85 - 100	45 - 80	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H2	4 to 12	CL	--	5	65 - 100	60 - 90	50 - 80	30 - 55	30 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H3	12 to 20	GC	--	5	60 - 90	55 - 85	40 - 55	30 - 50	35 - 45	15 - 25	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H4	20 to 25	SM	--	--	60 - 80	50 - 75	30 - 50	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,537+00	20,544+00	LD	LEO-DELAMAR ASSOCIATION	DELAMAR	H5	25 to 29		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,544+00	20,553+00	CG	Cliffdown-Geer association	Cliffdown	H1	0 to 2	SM	--	5	70 - 80	65 - 75	40 - 50	20 - 30	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,544+00	20,553+00	CG	Cliffdown-Geer association	Cliffdown	H2	2 to 60	GM	--	5	45 - 55	40 - 50	30 - 40	15 - 30	14	--	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,544+00	20,553+00	CG	Cliffdown-Geer association	Geer	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,544+00	20,553+00	CG	Cliffdown-Geer association	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	40 - 60	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,553+00	20,570+00	Gk	Geer silt loam, wet	Geer	H1	0 to 4	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	15 - 30	0 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Eccles	20,553+00	20,570+00	Gk	Geer silt loam, wet	Geer	H2	4 to 29	ML	--	--	100 - 100	100 - 100	85 - 95	50 - 65	15 - 30	0 - 10	4 - 14	7.9 - 9.0	4 - 16	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Eccles	20,553+00	20,570+00	Gk	Geer silt loam, wet	Geer	H3	29 to 37	CL-ML	--	--	100 - 100	100 - 100	85 - 95	50 - 65	15 - 30	0 - 10	1 - 4	7.9 - 9.0	4 - 16	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Eccles	20,553+00	20,570+00	Gk	Geer silt loam, wet	Geer	H4	37 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	50 - 65	15 - 30	0 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	42	--	--	High	Low	High	--	Very limited	Poor	Poor
Eccles	20,553+00	20,570+00	Gk	Geer silt loam, wet	Geer	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	42	--	--				--	Very limited	Poor	Poor
Eccles	20,553+00	20,570+00	Gk	GEER SILT LOAM	GEER	H1	0 to 14	ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,553+00	20,570+00	Gk	GEER SILT LOAM	GEER	H2	14 to 60	SM	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,553+00	20,570+00	Gk	GEER SILT LOAM	GEER	H3	60 to 72	CL-ML	--	--	60 - 90	55 - 90	45 - 90	25 - 70	20 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
Eccles	20,570+00	20,617+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 14	CL-ML	--	--	100 - 100	100 - 100	90 - 100	70 - 80	20 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Eccles	20,570+00	20,617+00	Gh	Geer silt loam, strongly saline	Geer	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	16 - 32	0.0 - 2.9	60	--	--	Moderate	Moderate	High	--	Very limited	Poor	Poor
Eccles	20,570+00	20,617+00	Gh	Geer silt loam, strongly saline	Geer	H1	0 to 26	CL	--	--	100 - 100	90 - 100	80 - 90	60 - 70	30 - 35	10 - 15	4 - 14	6.6 - 7.3	--	3.0 - 5.9	60	--	--				--	Very limited	Poor	Poor
Eccles	20,570+00	20,617+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H1	0 to 14	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 55	15 - 25	0 - 5	14 - 42	9.1 - 9.6	16 - 32	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Eccles	20,570+00	20,617+00	Gh	GEER FINE SANDY LOAM, WATER TABLE, STRONGLY SALINE	GEER	H2	14 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 16	0.0 - 2.9	57	--	--	Moderate	Moderate	High	--	Somewhat limited	Poor-Fair	Poor
Goldfield 1																														
GF1	12,335+00	12,378+00	1141	Unsel-Wardenot-Izo association	Unsel	H1	0 to 3	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,335+00	12,378+00	1141	Unsel-Wardenot-Izo association	Unsel	H2	3 to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,335+00	12,378+00	1141	Unsel-Wardenot-Izo association	Unsel	H3	15 to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,335+00	12,378+00	1141	Unsel-Wardenot-Izo association	Unsel	H4	28 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,335+00	12,378+00	1141	Unsel-Wardenot-Izo association	Wardenot	H1	0 to 1	SM	--	--	60 - 80	50 - 75	30 - 55	10 - 20	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,335+00	12,378+00	1141	Unsel-Wardenot-Izo association	Izo	H1	0 to 5	SP	--	5	75 - 85	50 - 75	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,335+00	12,378+00	1141	Unsel-Wardenot-Izo association	Izo	H2	5 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,335+00	12,378+00	1141	Unsel-Wardenot-Izo association	Wardenot	H2	1 to 60	GP-GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,378+00	12,472+00	1930	Stonell-Wardenot-Izo association	Stonell	H1	0 to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,378+00	12,472+00	1930	Stonell-Wardenot-Izo association	Stonell	H2	3 to 9	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,378+00	12,472+00	1930	Stonell-Wardenot-Izo association	Stonell	H3	9 to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,378+00	12,472+00	1930	Stonell-Wardenot-Izo association	Wardenot	H1	0 to 1	GM	--	10	45 - 60	35 - 55	20 - 35	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,378+00	12,472+00	1930	Stonell-Wardenot-Izo association	Izo	H1	0 to 5	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,378+00	12,472+00	1930	Stonell-Wardenot-Izo association	Izo	H2	5 to 60	GW-GM	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,378+00	12,472+00	1930	Stonell-Wardenot-Izo association	Wardenot	H2	1 to 60	GW-GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	12,472+00	12,485+00	2141	Advokay-Blacktop association	Advokay	H1	0 to 5	GM	--	--	55 - 80	50 - 75	25 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,472+00	12,485+00	2141	Advokay-Blacktop association	Advokay	H2	5 to 9	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,472+00	12,485+00	2141	Advokay-Blacktop association	Advokay	H3	9 to 13		-	-	-	-	-	-	-	-	0 -	-	-	-	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,472+00	12,485+00	2141	Advokay-Blacktop association	Blacktop	H1	0 to 6	GM	--	5 - 10	35 - 60	30 - 50	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	6	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	12,472+00	12,485+00	2141	Advokay-Blacktop association	Blacktop	H2	6 to 10		-	-	-	-	-	-	-	-	0.01	-	-	-	--	6	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	12,485+00	12,558+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,485+00	12,558+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H2	3 to 7	SC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,485+00	12,558+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,485+00	12,558+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Blacktop	H1	0 to 7	GM	15 - 25	15 - 25	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,485+00	12,558+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Blacktop	H2	7 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,558+00	12,572+00	1741	Keefa-Koyen association	Keefa	H1	0 to 4	SM	--	--	90 - 100	80 - 100	60 - 75	25 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	12,558+00	12,572+00	1741	Keefa-Koyen association	Keefa	H2	4 to 13	SM	--	--	75 - 100	65 - 100	40 - 75	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	12,558+00	12,572+00	1741	Keefa-Koyen association	Keefa	H3	13 to 54	SM	--	--	75 - 90	50 - 75	30 - 55	15 - 25	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	12,558+00	12,572+00	1741	Keefa-Koyen association	Keefa	H4	54 to 60	SM	--	--	60 - 90	50 - 75	30 - 55	10 - 15	15 - 25	0 - 5	14 - 42	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	12,558+00	12,572+00	1741	Keefa-Koyen association	Koyen	H1	0 to 4	SM	--	--	90 - 95	85 - 95	50 - 75	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	12,558+00	12,572+00	1741	Keefa-Koyen association	Koyen	H3	27 to 60	SP-SM	--	--	55 - 65	50 - 60	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	12,558+00	12,572+00	1741	Keefa-Koyen association	Koyen	H2	4 to 27	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	12,572+00	12,627+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,572+00	12,627+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H2	3 to 7	SC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,572+00	12,627+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	Inches	Inches								
GF1	12,572+00	12,627+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Blacktop	H1	0 to 7	GM	15 - 25	15 - 25	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,572+00	12,627+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Blacktop	H2	7 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,627+00	12,760+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Tognoni	H1	0 to 4	SM	1	10	60 - 75	55 - 70	45 - 65	15 - 45	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,627+00	12,760+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Tognoni	H2	4 to 14	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,627+00	12,760+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Tognoni	H3	14 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,627+00	12,760+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Blacktop	H1	0 to 7	GM	--	10	50 - 60	35 - 45	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GF1	12,627+00	12,760+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Blacktop	H2	7 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GF1	12,760+00	12,793+00	2750	SILVERBOW-WARDENOT-IZO ASSOCIATION	Silverbow	H1	0 to 2	SM	--	5 - 15	60 - 75	50 - 70	30 - 55	25 - 35	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,760+00	12,793+00	2750	SILVERBOW-WARDENOT-IZO ASSOCIATION	Silverbow	H2	2 to 10	GC	5 - 30	25 - 35	35 - 55	30 - 50	25 - 50	15 - 40	25 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,760+00	12,793+00	2750	SILVERBOW-WARDENOT-IZO ASSOCIATION	Silverbow	H3	10 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,760+00	12,793+00	2750	SILVERBOW-WARDENOT-IZO ASSOCIATION	Silverbow	H4	18 to 40		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,760+00	12,793+00	2750	SILVERBOW-WARDENOT-IZO ASSOCIATION	Wardenot	H1	0 to 5	GM	--	10	45 - 60	35 - 55	20 - 40	10 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	12,760+00	12,793+00	2750	SILVERBOW-WARDENOT-IZO ASSOCIATION	Wardenot	H2	5 to 60	GM	5	5 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	12,760+00	12,793+00	2750	SILVERBOW-WARDENOT-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	12,760+00	12,793+00	2750	SILVERBOW-WARDENOT-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	12,793+00	12,815+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Tognoni	H1	0 to 4	SM	1	10	60 - 75	55 - 70	45 - 65	15 - 45	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,793+00	12,815+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Tognoni	H2	4 to 14	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,793+00	12,815+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Tognoni	H3	14 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,793+00	12,815+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Blacktop	H1	0 to 7	GM	--	10	50 - 60	35 - 45	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GF1	12,793+00	12,815+00	2740	TOGNONI-BLACKTOP ASSOCIATION	Blacktop	H2	7 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GF1	12,815+00	12,870+00	2493	DOWNEYVILLE-TOGNONI-STONELL ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,815+00	12,870+00	2493	DOWNEYVILLE-TOGNONI-STONELL ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,815+00	12,870+00	2493	DOWNEYVILLE-TOGNONI-STONELL ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,815+00	12,870+00	2493	DOWNEYVILLE-TOGNONI-STONELL ASSOCIATION	Tognoni	H1	0 to 4	GM	5	30 - 40	45 - 55	40 - 50	35 - 45	20 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,815+00	12,870+00	2493	DOWNEYVILLE-TOGNONI-STONELL ASSOCIATION	Tognoni	H2	4 to 14	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,815+00	12,870+00	2493	DOWNEYVILLE-TOGNONI-STONELL ASSOCIATION	Tognoni	H3	14 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,815+00	12,870+00	2493	DOWNEYVILLE-TOGNONI-STONELL ASSOCIATION	Stonell	H1	0 to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
GF1	12,815+00	12,870+00	2493	DOWNEYVILLE-TOGNONI-STONELL ASSOCIATION	Stonell	H2	3 to 8	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
GF1	12,815+00	12,870+00	2493	DOWNEYVILLE-TOGNONI-STONELL ASSOCIATION	Stonell	H3	8 to 60	GW-GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Fair-Poor	Fair
GF1	12,870+00	12,900+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Downeyville	H1	0 to 4	SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,870+00	12,900+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,870+00	12,900+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,870+00	12,900+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Silverbow	H1	0 to 2	SM	--	5 - 15	60 - 75	50 - 70	30 - 55	25 - 35	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,870+00	12,900+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Silverbow	H2	2 to 10	GC	5 - 30	25 - 35	35 - 55	30 - 50	25 - 50	15 - 40	25 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,870+00	12,900+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Silverbow	H3	10 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,870+00	12,900+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Silverbow	H4	18 to 40		-	-	-	-	-	-	-	-	0 -	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Unsel	H1	0 to 7	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Fair	Fair
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Unsel	H2	7 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Fair	Fair
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Unsel	H3	11 to 20	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Fair	Fair
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Unsel	H4	20 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
	From	To							Percent Retained		Percent Passing				Percent		µM/sec	pH	µmhos/cm	Percent	Inches	Inches								
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H1	0 to 3	SM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H2	3 to 9	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H3	9 to 14	GC-GM	5	25 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H4	14 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,900+00	12,914+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H5	15 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,914+00	12,940+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Downeyville	H1	0 to 4	SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,914+00	12,940+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,914+00	12,940+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,914+00	12,940+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Silverbow	H1	0 to 2	SM	--	5 - 15	60 - 75	50 - 70	30 - 55	25 - 35	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,914+00	12,940+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Silverbow	H2	2 to 10	GC	5 - 30	25 - 35	35 - 55	30 - 50	25 - 50	15 - 40	25 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,914+00	12,940+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Silverbow	H3	10 to 18		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,914+00	12,940+00	2492	DOWNEYVILLE-SILVERBOW-ROCK OUTCROP ASSOCIATION	Silverbow	H4	18 to 40		-	-	-	-	-	-	-	-	0 -	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,940+00	12,960+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,940+00	12,960+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,940+00	12,960+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,940+00	12,960+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GW-GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,940+00	12,960+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,940+00	12,960+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,940+00	12,960+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,940+00	12,960+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,940+00	12,960+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Papoose	H1	0 to 6	SM	--	--	65 - 80	60 - 75	25 - 45	10 - 25	-	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Papoose	H2	6 to 12	SC	--	--	75 - 80	70 - 75	45 - 60	35 - 50	30 - 40	10 - 20	1 - 4	7.4 - 7.8	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Papoose	H3	12 to 25	GC	--	--	45 - 55	40 - 50	30 - 45	20 - 30	25 - 30	10 - 15	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Papoose	H4	25 to 60	GP-GM	--	10	20 - 30	15 - 25	10 - 20	5 - 10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Vindicator	H1	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Espint	H2	1 to 7	CL	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,960+00	12,966+00	2710	PAPOOSE-VINDICATOR-ESPINT ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	12,966+00	12,990+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,966+00	12,990+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,966+00	12,990+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,966+00	12,990+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GW-GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,966+00	12,990+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,966+00	12,990+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,966+00	12,990+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,966+00	12,990+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,966+00	12,990+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,990+00	13,023+00	570	Espint-Vindicator association	Espint	H1	0 to 1	GM	--	25 - 40	45 - 70	40 - 65	30 - 50	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,990+00	13,023+00	570	Espint-Vindicator association	Espint	H2	1 to 7	GC	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,990+00	13,023+00	570	Espint-Vindicator association	Espint	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,990+00	13,023+00	570	Espint-Vindicator association	Vindicator	H1	0 to 2	SM	--	10	70 - 85	65 - 80	40 - 50	25 - 40	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,990+00	13,023+00	570	Espint-Vindicator association	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,990+00	13,023+00	570	Espint-Vindicator association	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,990+00	13,023+00	570	Espint-Vindicator association	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,990+00	13,023+00	570	Espint-Vindicator association	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	12,990+00	13,023+00	570	Espint-Vindicator association	Espint	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,023+00	13,031+00	560	Unsel variant-Vindicator-Espint association	Unsel variant	H1	0 to 6	SM	--	--	65 - 80	60 - 75	25 - 45	10 - 25	-	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,023+00	13,031+00	560	Unsel variant-Vindicator-Espint association	Unsel variant	H2	6 to 25	SC	--	--	75 - 80	70 - 75	45 - 60	35 - 50	30 - 40	10 - 20	1 - 4	7.4 - 7.8	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,023+00	13,031+00	560	Unsel variant-Vindicator-Espint association	Vindicator	H1	0 to 2	SM	--	10	70 - 85	65 - 80	40 - 50	25 - 40	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,023+00	13,031+00	560	Unsel variant-Vindicator-Espint association	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
	From	To							Percent Retained		Percent Passing				Percent		µM/sec	pH	µmhos/cm	Percent	Inches	Inches								
GF1	13,023+00	13,031+00	560	Unsel variant-Vindicator-Espint association	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,023+00	13,031+00	560	Unsel variant-Vindicator-Espint association	Espint	H1	0 to 1	SM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,023+00	13,031+00	560	Unsel variant-Vindicator-Espint association	Espint	H2	1 to 7	SC	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,023+00	13,031+00	560	Unsel variant-Vindicator-Espint association	Espint	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,023+00	13,031+00	560	Unsel variant-Vindicator-Espint association	Unsel variant	H3	25 to 60	GM	--	10	20 - 30	15 - 25	10 - 25	5 - 15	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,031+00	13,068+00	570	Espint-Vindicator association	Espint	H1	0 to 1	GM	--	25 - 40	45 - 70	40 - 65	30 - 50	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,031+00	13,068+00	570	Espint-Vindicator association	Espint	H2	1 to 7	GC	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,031+00	13,068+00	570	Espint-Vindicator association	Espint	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,031+00	13,068+00	570	Espint-Vindicator association	Vindicator	H1	0 to 2	SM	--	10	70 - 85	65 - 80	40 - 50	25 - 40	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,031+00	13,068+00	570	Espint-Vindicator association	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,031+00	13,068+00	570	Espint-Vindicator association	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,031+00	13,068+00	570	Espint-Vindicator association	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,031+00	13,068+00	570	Espint-Vindicator association	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,031+00	13,068+00	570	Espint-Vindicator association	Espint	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,068+00	13,117+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,068+00	13,117+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,068+00	13,117+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,068+00	13,117+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GW-GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,068+00	13,117+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,068+00	13,117+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,068+00	13,117+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,068+00	13,117+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,068+00	13,117+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,117+00	13,208+00	2731	GABBVALLY-DOWNEYVILLE-VINDICATOR ASSOCIATION	Gabbvally	H1	0 to 4	GM	--	10	50 - 60	35 - 45	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF1	13,117+00	13,208+00	2731	GABBVALLY-DOWNEYVILLE-VINDICATOR ASSOCIATION	Gabbvally	H2	4 to 12	GC-GM	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF1	13,117+00	13,208+00	2731	GABBVALLY-DOWNEYVILLE-VINDICATOR ASSOCIATION	Gabbvally	H3	12 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF1	13,117+00	13,208+00	2731	GABBVALLY-DOWNEYVILLE-VINDICATOR ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,117+00	13,208+00	2731	GABBVALLY-DOWNEYVILLE-VINDICATOR ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,117+00	13,208+00	2731	GABBVALLY-DOWNEYVILLE-VINDICATOR ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,117+00	13,208+00	2731	GABBVALLY-DOWNEYVILLE-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,117+00	13,208+00	2731	GABBVALLY-DOWNEYVILLE-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,117+00	13,208+00	2731	GABBVALLY-DOWNEYVILLE-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Unsel	H1	0 to 7	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Unsel	H2	7 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Unsel	H3	11 to 20	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Unsel	H4	20 to 60	GP	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Stonell	H1	0 to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Stonell	H2	3 to 8	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Stonell	H3	8 to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Veet	H1	0 to 5	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Not limited	Poor-Fair	Poor
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Veet	H2	5 to 20	GC	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Not limited	Poor-Fair	Poor
GF1	13,208+00	13,235+00	2720	UNSEL-STONELL-VEET ASSOCIATION	Veet	H3	20 to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Not limited	Poor-Fair	Poor
GF1	13,235+00	13,290+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 -5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,235+00	13,290+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,235+00	13,290+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,235+00	13,290+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GW-GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,235+00	13,290+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,235+00	13,290+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,235+00	13,290+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,235+00	13,290+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,235+00	13,290+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,290+00	13,300+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,290+00	13,300+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,290+00	13,300+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,290+00	13,300+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H1	0 to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,290+00	13,300+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,290+00	13,300+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,290+00	13,300+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
GF1	13,290+00	13,300+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF1	13,300+00	13,313+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,300+00	13,313+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,300+00	13,313+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,300+00	13,313+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GW-GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,300+00	13,313+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,300+00	13,313+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,300+00	13,313+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,300+00	13,313+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,300+00	13,313+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,313+00	13,418+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,313+00	13,418+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,313+00	13,418+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,313+00	13,418+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H1	0 to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,313+00	13,418+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,313+00	13,418+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,313+00	13,418+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF1	13,313+00	13,418+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF1	13,418+00	13,462+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,418+00	13,462+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,418+00	13,462+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF1	13,418+00	13,462+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H1	0 to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,418+00	13,462+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,418+00	13,462+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,418+00	13,462+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF1	13,418+00	13,462+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Downeyville	H1	0 to 4	SM	--	5 - 20	60 - 70	30 - 55	20 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Blacktop	H1	0 to 7	GM	15 - 25	15 - 25	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Blacktop	H2	7 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Tokoper	H1	0 to 3	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Tokoper	H2	3 to 9	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Tokoper	H3	9 to 14	GC-GM	5	25 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Tokoper	H4	14 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,462+00	13,522+00	2491	DOWNEYVILLE-BLACKTOP-TOKOPER ASSOCIATION	Tokoper	H5	15 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF1	13,522+00	13,569+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H1	0 to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,522+00	13,569+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,522+00	13,569+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,522+00	13,569+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H1	0 to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	13,522+00	13,569+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H2	3 to 8	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	13,522+00	13,569+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H3	8 to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	13,522+00	13,569+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,522+00	13,569+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,569+00	13,621+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Stonell	H1	0 to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
GF1	13,569+00	13,621+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Stonell	H2	3 to 8	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
GF1	13,569+00	13,621+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Stonell	H3	8 to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
GF1	13,569+00	13,621+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Wardenot	H1	0 to 5	GM	--	10	45 - 60	35 - 55	20 - 35	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,569+00	13,621+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Wardenot	H2	5 to 60	GM	5	5 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,569+00	13,621+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,569+00	13,621+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,621+00	13,630+00	2690	LEO-IZO ASSOCIATION	Leo	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	13,621+00	13,630+00	2690	LEO-IZO ASSOCIATION	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	13,621+00	13,630+00	2690	LEO-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,621+00	13,630+00	2690	LEO-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,630+00	13,661+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Stonell	H1	0 to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
GF1	13,630+00	13,661+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Stonell	H2	3 to 8	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties: >10 inches (Percent Retained)	Engineering Index Properties: 3 to10 inches (Percent Retained)	Engineering Index Properties: #4 Sieve (Percent Passing)	Engineering Index Properties: #10 Sieve (Percent Passing)	Engineering Index Properties: #40 Sieve (Percent Passing)	Engineering Index Properties: #200 Sieve (Percent Passing)	Engineering Index Properties: Liquid Limit (Percent)	Engineering Index Properties: Plasticity Index (Percent)	Physical and Chemical Properties: Saturated Hydraulic Conductivity (µM/sec)	Physical and Chemical Properties: Reaction (pH)	Physical and Chemical Properties: Salinity (electrical conductivity) (µmhos/cm)	Physical and Chemical Properties: Linear Extensibility (shrink-swell) (Percent)	Soil Rock and Water Features: Depth to Water Table (inches)	Soil Rock and Water Features: Depth to Bedrock (inches)	Soil Rock and Water Features: Bedrock Hardness	Soil Rock and Water Features: Frost Action	Risk of Corrosion: Concrete	Risk of Corrosion: Uncoated Steel	Site Development: Excavation Difficulty	Site Development: Local Roads and Streets	Material Source: Sand	Material Source: Gravel
GF1	13,630+00	13,661+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Stonell	H3	8 to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
GF1	13,630+00	13,661+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Wardenot	H1	0 to 5	GM	--	10	45 - 60	35 - 55	20 - 35	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,630+00	13,661+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Wardenot	H2	5 to 60	GM	5	5 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,630+00	13,661+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,630+00	13,661+00	2660	STONELL-WARDENOT-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,661+00	13,685+00	2690	LEO-IZO ASSOCIATION	Leo	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	13,661+00	13,685+00	2690	LEO-IZO ASSOCIATION	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	13,661+00	13,685+00	2690	LEO-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,661+00	13,685+00	2690	LEO-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,685+00	13,758+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H1	0 to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,685+00	13,758+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,685+00	13,758+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,685+00	13,758+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H1	0 to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	13,685+00	13,758+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H2	3 to 8	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	13,685+00	13,758+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H3	8 to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	13,685+00	13,758+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,685+00	13,758+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,758+00	13,772+00	2690	LEO-IZO ASSOCIATION	Leo	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	13,758+00	13,772+00	2690	LEO-IZO ASSOCIATION	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF1	13,758+00	13,772+00	2690	LEO-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,758+00	13,772+00	2690	LEO-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF1	13,772+00	13,803+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H1	0 to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,772+00	13,803+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,772+00	13,803+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,772+00	13,803+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H1	0 to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	13,772+00	13,803+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H2	3 to 8	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	13,772+00	13,803+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H3	8 to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF1	13,772+00	13,803+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,772+00	13,803+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,803+00	13,864+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Luning	H1	0 to 3	SM	--	--	100 - 100	90 - 100	70 - 85	20 - 35	-	--	42 - 141	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF1	13,803+00	13,864+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Luning	H2	3 to 60	SM	10	--	75 - 95	55 - 90	45 - 80	10 - 30	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF1	13,803+00	13,864+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Wardenot	H1	0 to 5	SM	--	--	60 - 80	50 - 75	40 - 60	20 - 40	20 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,803+00	13,864+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Wardenot	H2	5 to 60	GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,803+00	13,864+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,803+00	13,864+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,864+00	13,871+00	2580	WARDENOT-IZO ASSOCIATION	Wardenot	H1	0 to 5	SM	--	10	45 - 60	35 - 55	20 - 40	10 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,864+00	13,871+00	2580	WARDENOT-IZO ASSOCIATION	Wardenot	H2	5 to 60	GM	5	5 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,864+00	13,871+00	2580	WARDENOT-IZO ASSOCIATION	Izo	H1	0 to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF1	13,864+00	13,871+00	2580	WARDENOT-IZO ASSOCIATION	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
Goldfield 3																													
GF3	52,000+00	52,658+00	1141	Unsel-Wardenot-Izo association	Unsel	H1	0 to 3	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,000+00	52,658+00	1141	Unsel-Wardenot-Izo association	Unsel	H2	3 to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,000+00	52,658+00	1141	Unsel-Wardenot-Izo association	Unsel	H3	15 to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,000+00	52,658+00	1141	Unsel-Wardenot-Izo association	Unsel	H4	28 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,000+00	52,658+00	1141	Unsel-Wardenot-Izo association	Wardenot	H1	0 to 1	SM	--	--	60 - 80	50 - 75	30 - 55	10 - 20	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,000+00	52,658+00	1141	Unsel-Wardenot-Izo association	Izo	H1	0 to 5	SP	--	5	75 - 85	50 - 75	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,000+00	52,658+00	1141	Unsel-Wardenot-Izo association	Izo	H2	5 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,000+00	52,658+00	1141	Unsel-Wardenot-Izo association	Wardenot	H2	1 to 60	GP-GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,154+00	52,166+00	2141	Advokay-Blacktop association	Advokay	H1	0 to 5	GM	--	--	55 - 80	50 - 75	25 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	52,154+00	52,166+00	2141	Advokay-Blacktop association	Advokay	H2	5 to 9	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	52,154+00	52,166+00	2141	Advokay-Blacktop association	Advokay	H3	9 to 13		-	-	-	-	-	-	-	-	0 -	-	-	-	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	52,154+00	52,166+00	2141	Advokay-Blacktop association	Blacktop	H1	0 to 6	GM	--	5 - 10	35 - 60	30 - 50	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	6	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	52,154+00	52,166+00	2141	Advokay-Blacktop association	Blacktop	H2	6 to 10		-	-	-	-	-	-	-	-	0.01	-	-	-	--	6	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	52,166+00	52,240+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	52,166+00	52,240+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H2	3 to 7	SC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	52,166+00	52,240+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	52,166+00	52,240+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Blacktop	H1	0 to 7	GM	15 - 25	15 - 25	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	52,166+00	52,240+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Blacktop	H2	7 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	52,240+00	52,300+00	2741	BLACKTOP-DOWNEYVILLE-TOGNONI ASSOCIATION	Blacktop	H1	0 to 7	GM	15 - 25	15 - 25	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,240+00	52,300+00	2741	BLACKTOP-DOWNEYVILLE-TOGNONI ASSOCIATION	Blacktop	H2	7 to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,240+00	52,300+00	2741	BLACKTOP-DOWNEYVILLE-TOGNONI ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,240+00	52,300+00	2741	BLACKTOP-DOWNEYVILLE-TOGNONI ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
	From	To							Percent Retained		Percent Passing				Percent		µM/sec	pH	µmhos/cm	Percent	inches	inches								
GF3	52,240+00	52,300+00	2741	BLACKTOP-DOWNEYVILLE-TOGNONI ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,240+00	52,300+00	2741	BLACKTOP-DOWNEYVILLE-TOGNONI ASSOCIATION	Tognoni	H1	0 to 4	GM	5	30 - 40	45 - 55	40 - 50	35 - 45	20 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,240+00	52,300+00	2741	BLACKTOP-DOWNEYVILLE-TOGNONI ASSOCIATION	Tognoni	H2	4 to 14	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,240+00	52,300+00	2741	BLACKTOP-DOWNEYVILLE-TOGNONI ASSOCIATION	Tognoni	H3	14 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,300+00	52,430+00	2732	GABBVALLY-TOGNONI-DOWNEYVILLE ASSOCIATION	Gabbvally	H1	0 to 4	GM	--	10	50 - 60	35 - 45	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,300+00	52,430+00	2732	GABBVALLY-TOGNONI-DOWNEYVILLE ASSOCIATION	Gabbvally	H2	4 to 12	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,300+00	52,430+00	2732	GABBVALLY-TOGNONI-DOWNEYVILLE ASSOCIATION	Gabbvally	H3	12 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,300+00	52,430+00	2732	GABBVALLY-TOGNONI-DOWNEYVILLE ASSOCIATION	Tognoni	H1	0 to 4	SM	1	10	60 - 75	55 - 70	45 - 65	15 - 45	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,300+00	52,430+00	2732	GABBVALLY-TOGNONI-DOWNEYVILLE ASSOCIATION	Tognoni	H2	4 to 14	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,300+00	52,430+00	2732	GABBVALLY-TOGNONI-DOWNEYVILLE ASSOCIATION	Tognoni	H3	14 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,300+00	52,430+00	2732	GABBVALLY-TOGNONI-DOWNEYVILLE ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,300+00	52,430+00	2732	GABBVALLY-TOGNONI-DOWNEYVILLE ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,300+00	52,430+00	2732	GABBVALLY-TOGNONI-DOWNEYVILLE ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Tokoper	H1	0 to 3	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Tokoper	H2	3 to 9	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Tokoper	H3	9 to 14	GC-GM	5	25 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Tokoper	H4	14 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Tokoper	H5	15 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Espint	H2	1 to 7	SC	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,430+00	52,543+00	2254	TOKOPER-DOWNEYVILLE-ESPINT ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Unsel	H1	0 to 7	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Fair	Fair
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Unsel	H2	7 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Fair	Fair
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Unsel	H3	11 to 20	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Fair	Fair
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Unsel	H4	20 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Fair	Fair
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H1	0 to 3	SM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H2	3 to 9	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H3	9 to 14	GC-GM	5	25 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H4	14 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,543+00	52,585+00	2760	DOWNEYVILLE-UNSEL-TOKOPER ASSOCIATION	Tokoper	H5	15 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,585+00	52,631+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Espint	H1	0 to 1	SM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,585+00	52,631+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Espint	H2	1 to 7	SC	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,585+00	52,631+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,585+00	52,631+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Gabbvally	H1	0 to 4	GM	--	10	50 - 60	35 - 45	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,585+00	52,631+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Gabbvally	H2	4 to 12	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,585+00	52,631+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Gabbvally	H3	12 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,585+00	52,631+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Stewval	H1	0 to 1	GC-GM	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,585+00	52,631+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,585+00	52,631+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,631+00	52,647+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,631+00	52,647+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,631+00	52,647+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,631+00	52,647+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	y	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,631+00	52,647+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,631+00	52,647+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,631+00	52,647+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H1	0 to 1	GC	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,631+00	52,647+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,631+00	52,647+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,647+00	52,686+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Espint	H1	0 to 1	SM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,647+00	52,686+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Espint	H2	1 to 7	SC	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,647+00	52,686+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,647+00	52,686+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Gabbvally	H1	0 to 4	GM	--	10	50 - 60	35 - 45	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,647+00	52,686+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Gabbvally	H2	4 to 12	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,647+00	52,686+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Gabbvally	H3	12 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,647+00	52,686+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Stewval	H1	0 to 1	GC-GM	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,647+00	52,686+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,647+00	52,686+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,658+00	52,154+00	1930	Stonell-Wardenot-Izo association	Stonell	H1	0 to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,658+00	52,154+00	1930	Stonell-Wardenot-Izo association	Stonell	H2	3 to 9	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,658+00	52,154+00	1930	Stonell-Wardenot-Izo association	Stonell	H3	9 to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,658+00	52,154+00	1930	Stonell-Wardenot-Izo association	Wardenot	H1	0 to 1	GM	--	10	45 - 60	35 - 55	20 - 35	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,658+00	52,154+00	1930	Stonell-Wardenot-Izo association	Izo	H1	0 to 5	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,658+00	52,154+00	1930	Stonell-Wardenot-Izo association	Izo	H2	5 to 60	GW-GM	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF3	52,658+00	52,154+00	1930	Stonell-Wardenot-Izo association	Wardenot	H2	1 to 60	GW-GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
	From	To							Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	Inches	Inches								
GF3	52,686+00	52,735+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,686+00	52,735+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,686+00	52,735+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,686+00	52,735+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	y	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,686+00	52,735+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,686+00	52,735+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,686+00	52,735+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H1	0 to 1	GC	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,686+00	52,735+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,686+00	52,735+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,735+00	52,784+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Espint	H1	0 to 1	SM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,735+00	52,784+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Espint	H2	1 to 7	SC	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,735+00	52,784+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,735+00	52,784+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Gabbvally	H1	0 to 4	GM	--	10	50 - 60	35 - 45	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,735+00	52,784+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Gabbvally	H2	4 to 12	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,735+00	52,784+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Gabbvally	H3	12 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF3	52,735+00	52,784+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Stewval	H1	0 to 1	GC-GM	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,735+00	52,784+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,735+00	52,784+00	2682	ESPINT-GABBVALLY-STEWVAL ASSOCIATION	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,784+00	52,955+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,784+00	52,955+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,784+00	52,955+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,784+00	52,955+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	y	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,784+00	52,955+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,784+00	52,955+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,784+00	52,955+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H1	0 to 1	GC	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,784+00	52,955+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,784+00	52,955+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,955+00	52,973+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,955+00	52,973+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,955+00	52,973+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,955+00	52,973+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GW-GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,955+00	52,973+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,955+00	52,973+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,955+00	52,973+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,955+00	52,973+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,955+00	52,973+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,973+00	52,983+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H1	0 to 4	SC-SM	--	5 - 20	60 - 70	30 - 55	25 - 45	15 - 30	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,973+00	52,983+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H2	4 to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent		µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
GF3	52,973+00	52,983+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Downeyville	H3	9 to 13		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,973+00	52,983+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	y	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,973+00	52,983+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,973+00	52,983+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,973+00	52,983+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H1	0 to 1	GC	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,973+00	52,983+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,973+00	52,983+00	2494	DOWNEYVILLE-VINDICATOR-STEWVAL ASSOCIATION	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GF3	52,983+00	53,069+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,983+00	53,069+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,983+00	53,069+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,983+00	53,069+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GW-GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,983+00	53,069+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,983+00	53,069+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,983+00	53,069+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,983+00	53,069+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	52,983+00	53,069+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,069+00	53,080+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	53,069+00	53,080+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	53,069+00	53,080+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	53,069+00	53,080+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H1	0 to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	53,069+00	53,080+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	53,069+00	53,080+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	53,069+00	53,080+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF3	53,069+00	53,080+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF3	53,080+00	53,088+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,080+00	53,088+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,080+00	53,088+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,080+00	53,088+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GW-GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,080+00	53,088+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,080+00	53,088+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,080+00	53,088+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,080+00	53,088+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,080+00	53,088+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,088+00	53,102+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	53,088+00	53,102+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	53,088+00	53,102+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	53,088+00	53,102+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H1	0 to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	53,088+00	53,102+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	53,088+00	53,102+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	53,088+00	53,102+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF3	53,088+00	53,102+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF3	53,102+00	53,115+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,102+00	53,115+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,102+00	53,115+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,102+00	53,115+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H1	0 to 2	GW-GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,102+00	53,115+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,102+00	53,115+00	2680	ESPINT-VINDICATOR ASSOCIATION	Vindicator	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,102+00	53,115+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,102+00	53,115+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,102+00	53,115+00	2680	ESPINT-VINDICATOR ASSOCIATION	Espint	H3	7 to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF3	53,115+00	53,195+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	53,115+00	53,195+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	53,115+00	53,195+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF3	53,115+00	53,195+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H1	0 to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	53,115+00	53,195+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	53,115+00	53,195+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF3	53,115+00	53,195+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H1	0 to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF3	53,115+00	53,195+00	2641	ADVOKAY-ARDIVEY-LEO ASSOCIATION	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
Goldfield 4																														
GF4	42,000+00	42,050+00	1141	Unsel-Wardenot-Izo association	Unsel	H1	0 to 3	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To								>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
										Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
GF4	42,000+00	42,050+00	1141	Unsel-Wardenot-Izo association	Unsel	H2	3	to 15	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,000+00	42,050+00	1141	Unsel-Wardenot-Izo association	Unsel	H3	15	to 28	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,000+00	42,050+00	1141	Unsel-Wardenot-Izo association	Unsel	H4	28	to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,000+00	42,050+00	1141	Unsel-Wardenot-Izo association	Wardenot	H1	0	to 1	SM	--	--	60 - 80	50 - 75	30 - 55	10 - 20	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,000+00	42,050+00	1141	Unsel-Wardenot-Izo association	Izo	H1	0	to 5	SP	--	5	75 - 85	50 - 75	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,000+00	42,050+00	1141	Unsel-Wardenot-Izo association	Izo	H2	5	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,000+00	42,050+00	1141	Unsel-Wardenot-Izo association	Wardenot	H2	1	to 60	GP-GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,050+00	42,162+00	1930	Stonell-Wardenot-Izo association	Stonell	H1	0	to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,050+00	42,162+00	1930	Stonell-Wardenot-Izo association	Stonell	H2	3	to 9	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,050+00	42,162+00	1930	Stonell-Wardenot-Izo association	Stonell	H3	9	to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,050+00	42,162+00	1930	Stonell-Wardenot-Izo association	Wardenot	H1	0	to 1	GM	--	10	45 - 60	35 - 55	20 - 35	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,050+00	42,162+00	1930	Stonell-Wardenot-Izo association	Izo	H1	0	to 5	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,050+00	42,162+00	1930	Stonell-Wardenot-Izo association	Izo	H2	5	to 60	GW-GM	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,050+00	42,162+00	1930	Stonell-Wardenot-Izo association	Wardenot	H2	1	to 60	GW-GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,162+00	42,180+00	2141	Advokay-Blacktop association	Advokay	H1	0	to 5	GM	--	--	55 - 80	50 - 75	25 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,162+00	42,180+00	2141	Advokay-Blacktop association	Advokay	H2	5	to 9	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,162+00	42,180+00	2141	Advokay-Blacktop association	Advokay	H3	9	to 13		-	-	-	-	-	-	-	-	0 -	-	-	-	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,162+00	42,180+00	2141	Advokay-Blacktop association	Blacktop	H1	0	to 6	GM	--	5 - 10	35 - 60	30 - 50	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	6	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,162+00	42,180+00	2141	Advokay-Blacktop association	Blacktop	H2	6	to 10		-	-	-	-	-	-	-	-	0.01	-	-	-	--	6	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,180+00	42,186+00	1990	Tognoni-Blacktop association	Tognoni	H1	0	to 5	GM	5	40 - 55	25 - 45	20 - 40	15 - 35	5 - 25	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	6	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,180+00	42,186+00	1990	Tognoni-Blacktop association	Tognoni	H2	5	to 12	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	6	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,180+00	42,186+00	1990	Tognoni-Blacktop association	Tognoni	H3	12	to 16		-	-	-	-	-	-	-	-	0.01	-	-	-	--	6	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,180+00	42,186+00	1990	Tognoni-Blacktop association	Tognoni	H1	0	to 5	GM	5	30 - 40	45 - 55	40 - 50	35 - 45	20 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	6	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,180+00	42,186+00	1990	Tognoni-Blacktop association	Tognoni	H2	5	to 12	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	6	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,180+00	42,186+00	1990	Tognoni-Blacktop association	Tognoni	H3	12	to 16		-	-	-	-	-	-	-	-	0.01	-	-	-	--	6	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,180+00	42,186+00	1990	Tognoni-Blacktop association	Blacktop	H1	0	to 6	GM	20 - 35	10 - 20	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	6	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GF4	42,180+00	42,186+00	1990	Tognoni-Blacktop association	Blacktop	H2	6	to 10		-	-	-	-	-	-	-	-	0.01	-	-	-	--	6	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GF4	42,186+00	42,194+00	2141	Advokay-Blacktop association	Advokay	H1	0	to 5	GM	--	--	55 - 80	50 - 75	25 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,186+00	42,194+00	2141	Advokay-Blacktop association	Advokay	H2	5	to 9	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,186+00	42,194+00	2141	Advokay-Blacktop association	Advokay	H3	9	to 13		-	-	-	-	-	-	-	-	0 -	-	-	-	--	6	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,186+00	42,194+00	2141	Advokay-Blacktop association	Blacktop	H1	0	to 6	GM	--	5 - 10	35 - 60	30 - 50	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	6	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,186+00	42,194+00	2141	Advokay-Blacktop association	Blacktop	H2	6	to 10		-	-	-	-	-	-	-	-	0.01	-	-	-	--	6	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,194+00	42,339+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H1	0	to 3	GM	--	--	55 - 80	50 - 75	30 - 55	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,194+00	42,339+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H2	3	to 7	SC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,194+00	42,339+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Advokay	H3	7	to 11		-	-	-	-	-	-	-	-	0 -	-	-	-	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,194+00	42,339+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Blacktop	H1	0	to 7	GM	15 - 25	15 - 25	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,194+00	42,339+00	2642	ADVOKAY-BLACKTOP ASSOCIATION	Blacktop	H2	7	to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,339+00	42,356+00	281	Tognoni-Blacktop-Downeyville association	Tognoni	H1	0	to 4	GM	5	30 - 40	45 - 55	40 - 50	35 - 45	20 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,339+00	42,356+00	281	Tognoni-Blacktop-Downeyville association	Tognoni	H2	4	to 14	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,339+00	42,356+00	281	Tognoni-Blacktop-Downeyville association	Tognoni	H3	14	to 18		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,339+00	42,356+00	281	Tognoni-Blacktop-Downeyville association	Blacktop	H1	0	to 4	GM	--	5 - 10	35 - 60	30 - 50	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	42,339+00	42,356+00	281	Tognoni-Blacktop-Downeyville association	Blacktop	H2	4	to 8		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	42,339+00	42,356+00	281	Tognoni-Blacktop-Downeyville association	Downeyville	H1	0	to 4	SM	5	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,339+00	42,356+00	281	Tognoni-Blacktop-Downeyville association	Downeyville	H2	4	to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,339+00	42,356+00	281	Tognoni-Blacktop-Downeyville association	Downeyville	H3	9	to 13		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,356+00	42,458+00	510	Silverbow-Wardenot-Izo association	Silverbow	H1	0	to 2	GM	5 - 15	5 - 25	40 - 55	35 - 50	25 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,356+00	42,458+00	510	Silverbow-Wardenot-Izo association	Silverbow	H2	2	to 10	GC	5 - 15	30 - 45	35 - 55	30 - 50	25 - 50	15 - 40	25 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,356+00	42,458+00	510	Silverbow-Wardenot-Izo association	Silverbow	H3	10	to 18		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,356+00	42,458+00	510	Silverbow-Wardenot-Izo association	Silverbow	H4	18	to 40		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,356+00	42,458+00	510	Silverbow-Wardenot-Izo association	Wardenot	H1	0	to 7	GM	--	10	45 - 60	35 - 55	20 - 40	10 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,356+00	42,458+00	510	Silverbow-Wardenot-Izo association	Izo	H1	0	to 8	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,356+00	42,458+00	510	Silverbow-Wardenot-Izo association	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,356+00	42,458+00	510	Silverbow-Wardenot-Izo association	Wardenot	H2	7	to 60	GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,458+00	42,488+00	108	Unsel-Izo association	Unsel	H1	0	to 7	SC	1	40 - 50	65 - 90	55 - 80	35 - 55	15 - 30	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,458+00	42,488+00	108	Unsel-Izo association	Unsel	H2	7	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,458+00	42,488+00	108	Unsel-Izo association	Unsel	H3	11	to 20	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,458+00	42,488+00	108	Unsel-Izo association	Unsel	H4	20	to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,458+00	42,488+00	108	Unsel-Izo association	Izo	H1	0	to 8	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,458+00	42,488+00	108	Unsel-Izo association	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,488+00	42,517+00	510	Silverbow-Wardenot-Izo association	Silverbow	H1	0	to 2	GM	5 - 15	5 - 25	40 - 55	35 - 50	25 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,488+00	42,517+00	510	Silverbow-Wardenot-Izo association	Silverbow	H2	2	to 10	GC	5 - 15	30 - 45	35 - 55	30 - 50	25 - 50	15 - 40	25 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,488+00	42,517+00	510	Silverbow-Wardenot-Izo association	Silverbow	H3	10	to 18		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,488+00	42,517+00	510	Silverbow-Wardenot-Izo association	Silverbow	H4	18	to 40		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,488+00	42,517+00	510	Silverbow-Wardenot-Izo association	Wardenot	H1	0	to 7	GM	--	10	45 - 60	35 - 55	20 - 40	10 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,488+00	42,517+00	510	Silverbow-Wardenot-Izo association	Izo	H1	0	to 8	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,488+00	42,517+00	510	Silverbow-Wardenot-Izo association	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,488+00	42,517+00	510	Silverbow-Wardenot-Izo association	Wardenot	H2	7	to 60	GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To								>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
										Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
GF4	42,517+00	42,569+00	281	Tognoni-Blacktop-Downeyville association	Tognoni	H1	0	to 4	GM	5	30 - 40	45 - 55	40 - 50	35 - 45	20 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,517+00	42,569+00	281	Tognoni-Blacktop-Downeyville association	Tognoni	H2	4	to 14	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,517+00	42,569+00	281	Tognoni-Blacktop-Downeyville association	Tognoni	H3	14	to 18		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,517+00	42,569+00	281	Tognoni-Blacktop-Downeyville association	Blacktop	H1	0	to 4	GM	--	5 - 10	35 - 60	30 - 50	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	42,517+00	42,569+00	281	Tognoni-Blacktop-Downeyville association	Blacktop	H2	4	to 8		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	42,517+00	42,569+00	281	Tognoni-Blacktop-Downeyville association	Downeyville	H1	0	to 4	SM	5	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,517+00	42,569+00	281	Tognoni-Blacktop-Downeyville association	Downeyville	H2	4	to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,517+00	42,569+00	281	Tognoni-Blacktop-Downeyville association	Downeyville	H3	9	to 13		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,569+00	42,575+00	363	Downeyville-Silverbow-Rock outcrop association	Downeyville	H1	0	to 4	SC-SM	5	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,569+00	42,575+00	363	Downeyville-Silverbow-Rock outcrop association	Downeyville	H2	4	to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,569+00	42,575+00	363	Downeyville-Silverbow-Rock outcrop association	Downeyville	H3	9	to 13		-	-	-	-	-	-	-	-	--	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,569+00	42,575+00	363	Downeyville-Silverbow-Rock outcrop association	Silverbow	H1	0	to 2	GM	5 - 15	5 - 25	40 - 55	35 - 50	25 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,569+00	42,575+00	363	Downeyville-Silverbow-Rock outcrop association	Silverbow	H2	2	to 10	GC	5 - 15	30 - 45	35 - 55	30 - 50	25 - 50	15 - 40	25 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,569+00	42,575+00	363	Downeyville-Silverbow-Rock outcrop association	Silverbow	H3	10	to 18		-	-	-	-	-	-	-	-	--	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,569+00	42,575+00	363	Downeyville-Silverbow-Rock outcrop association	Silverbow	H4	18	to 40		-	-	-	-	-	-	-	-	--	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,575+00	42,584+00	281	Tognoni-Blacktop-Downeyville association	Tognoni	H1	0	to 4	GM	5	30 - 40	45 - 55	40 - 50	35 - 45	20 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,575+00	42,584+00	281	Tognoni-Blacktop-Downeyville association	Tognoni	H2	4	to 14	GC	5	30 - 55	30 - 60	25 - 55	20 - 50	20 - 45	40 - 50	20 - 30	0 - 1	7.9 - 8.4	0 - 2	3.0 - 5.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,575+00	42,584+00	281	Tognoni-Blacktop-Downeyville association	Tognoni	H3	14	to 18		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,575+00	42,584+00	281	Tognoni-Blacktop-Downeyville association	Blacktop	H1	0	to 4	GM	--	5 - 10	35 - 60	30 - 50	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	42,575+00	42,584+00	281	Tognoni-Blacktop-Downeyville association	Blacktop	H2	4	to 8		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	42,575+00	42,584+00	281	Tognoni-Blacktop-Downeyville association	Downeyville	H1	0	to 4	SM	5	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,575+00	42,584+00	281	Tognoni-Blacktop-Downeyville association	Downeyville	H2	4	to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,575+00	42,584+00	281	Tognoni-Blacktop-Downeyville association	Downeyville	H3	9	to 13		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,584+00	42,600+00	363	Downeyville-Silverbow-Rock outcrop association	Downeyville	H1	0	to 4	SC-SM	5	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,584+00	42,600+00	363	Downeyville-Silverbow-Rock outcrop association	Downeyville	H2	4	to 9	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,584+00	42,600+00	363	Downeyville-Silverbow-Rock outcrop association	Downeyville	H3	9	to 13		-	-	-	-	-	-	-	-	--	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,584+00	42,600+00	363	Downeyville-Silverbow-Rock outcrop association	Silverbow	H1	0	to 2	GM	5 - 15	5 - 25	40 - 55	35 - 50	25 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,584+00	42,600+00	363	Downeyville-Silverbow-Rock outcrop association	Silverbow	H2	2	to 10	GC	5 - 15	30 - 45	35 - 55	30 - 50	25 - 50	15 - 40	25 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 4	0.0 - 2.9	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,584+00	42,600+00	363	Downeyville-Silverbow-Rock outcrop association	Silverbow	H3	10	to 18		-	-	-	-	-	-	-	-	--	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,584+00	42,600+00	363	Downeyville-Silverbow-Rock outcrop association	Silverbow	H4	18	to 40		-	-	-	-	-	-	-	-	--	-	-	-	--	9	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,600+00	42,642+00	108	Unsel-Izo association	Unsel	H1	0	to 7	SC	1	40 - 50	65 - 90	55 - 80	35 - 55	15 - 30	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,600+00	42,642+00	108	Unsel-Izo association	Unsel	H2	7	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,600+00	42,642+00	108	Unsel-Izo association	Unsel	H3	11	to 20	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,600+00	42,642+00	108	Unsel-Izo association	Unsel	H4	20	to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,600+00	42,642+00	108	Unsel-Izo association	Izo	H1	0	to 8	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,600+00	42,642+00	108	Unsel-Izo association	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,642+00	42,652+00	122	Leo-Izo association	Leo	H1	0	to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF4	42,642+00	42,652+00	122	Leo-Izo association	Izo	H1	0	to 8	GP-GM	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,642+00	42,652+00	122	Leo-Izo association	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,642+00	42,652+00	122	Leo-Izo association	Leo	H2	4	to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF4	42,652+00	42,700+00	108	Unsel-Izo association	Unsel	H1	0	to 7	SC	1	40 - 50	65 - 90	55 - 80	35 - 55	15 - 30	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,652+00	42,700+00	108	Unsel-Izo association	Unsel	H2	7	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,652+00	42,700+00	108	Unsel-Izo association	Unsel	H3	11	to 20	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,652+00	42,700+00	108	Unsel-Izo association	Unsel	H4	20	to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,652+00	42,700+00	108	Unsel-Izo association	Izo	H1	0	to 8	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,652+00	42,700+00	108	Unsel-Izo association	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,700+00	42,735+00	591	Vindicator-Unsel-Leo association	Vindicator	H1	0	to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,700+00	42,735+00	591	Vindicator-Unsel-Leo association	Vindicator	H2	2	to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,700+00	42,735+00	591	Vindicator-Unsel-Leo association	Vindicator	H3	7	to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,700+00	42,735+00	591	Vindicator-Unsel-Leo association	Unsel	H1	0	to 7	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,700+00	42,735+00	591	Vindicator-Unsel-Leo association	Unsel	H2	7	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,700+00	42,735+00	591	Vindicator-Unsel-Leo association	Unsel	H3	11	to 20	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,700+00	42,735+00	591	Vindicator-Unsel-Leo association	Unsel	H4	20	to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
	From	To							Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
GF4	42,700+00	42,735+00	591	Vindicator-Unsel-Leo association	Leo	H1	0 to 4	SM	--	--	45 - 65	25 - 50	20 - 40	5 - 25	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	42,700+00	42,735+00	591	Vindicator-Unsel-Leo association	Leo	H2	4 to 60	GW-GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	42,735+00	42,820+00	108	Unsel-Izo association	Unsel	H1	0 to 7	SC	1	40 - 50	65 - 90	55 - 80	35 - 55	15 - 30	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,735+00	42,820+00	108	Unsel-Izo association	Unsel	H2	7 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,735+00	42,820+00	108	Unsel-Izo association	Unsel	H3	11 to 20	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,735+00	42,820+00	108	Unsel-Izo association	Unsel	H4	20 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	14	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,735+00	42,820+00	108	Unsel-Izo association	Izo	H1	0 to 8	GW	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,735+00	42,820+00	108	Unsel-Izo association	Izo	H2	8 to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	42,820+00	42,973+00	591	Vindicator-Unsel-Leo association	Vindicator	H1	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,820+00	42,973+00	591	Vindicator-Unsel-Leo association	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,820+00	42,973+00	591	Vindicator-Unsel-Leo association	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	42,820+00	42,973+00	591	Vindicator-Unsel-Leo association	Unsel	H1	0 to 7	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,820+00	42,973+00	591	Vindicator-Unsel-Leo association	Unsel	H2	7 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,820+00	42,973+00	591	Vindicator-Unsel-Leo association	Unsel	H3	11 to 20	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,820+00	42,973+00	591	Vindicator-Unsel-Leo association	Unsel	H4	20 to 60	GP-GM	--	--	40 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	42,820+00	42,973+00	591	Vindicator-Unsel-Leo association	Leo	H1	0 to 4	SM	--	--	45 - 65	25 - 50	20 - 40	5 - 25	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	42,820+00	42,973+00	591	Vindicator-Unsel-Leo association	Leo	H2	4 to 60	GW-GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	42,973+00	42,993+00	592	Vindicator-Gabbvally-Advokay association	Gabbvally	H1	0 to 4	GM	5 - 25	5 - 10	60 - 75	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	13	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF4	42,973+00	42,993+00	592	Vindicator-Gabbvally-Advokay association	Gabbvally	H2	4 to 13	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	13	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF4	42,973+00	42,993+00	592	Vindicator-Gabbvally-Advokay association	Gabbvally	H3	13 to 17		-	-	-	-	-	-	-	-	--	-	-	-	--	13	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF4	42,973+00	42,993+00	592	Vindicator-Gabbvally-Advokay association	Vindicator	H1	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,973+00	42,993+00	592	Vindicator-Gabbvally-Advokay association	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,973+00	42,993+00	592	Vindicator-Gabbvally-Advokay association	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,973+00	42,993+00	592	Vindicator-Gabbvally-Advokay association	Advokay	H1	0 to 3	SM	--	--	55 - 80	50 - 75	25 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,973+00	42,993+00	592	Vindicator-Gabbvally-Advokay association	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,973+00	42,993+00	592	Vindicator-Gabbvally-Advokay association	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,993+00	43,040+00	570	Espint-Vindicator association	Espint	H1	0 to 1	GM	--	25 - 40	45 - 70	40 - 65	30 - 50	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,993+00	43,040+00	570	Espint-Vindicator association	Espint	H2	1 to 7	GC	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,993+00	43,040+00	570	Espint-Vindicator association	Espint	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,993+00	43,040+00	570	Espint-Vindicator association	Vindicator	H1	0 to 2	SM	--	10	70 - 85	65 - 80	40 - 50	25 - 40	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,993+00	43,040+00	570	Espint-Vindicator association	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,993+00	43,040+00	570	Espint-Vindicator association	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,993+00	43,040+00	570	Espint-Vindicator association	Espint	H1	0 to 1	GM	--	15	35 - 65	30 - 50	25 - 40	10 - 15	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,993+00	43,040+00	570	Espint-Vindicator association	Espint	H2	1 to 7	CH	--	10	65 - 90	55 - 85	45 - 75	35 - 60	40 - 55	20 - 30	0 - 1	7.4 - 8.4	0 - 2	6.0 - 8.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	42,993+00	43,040+00	570	Espint-Vindicator association	Espint	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,040+00	43,093+00	592	Vindicator-Gabbvally-Advokay association	Gabbvally	H1	0 to 4	GM	5 - 25	5 - 10	60 - 75	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	13	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF4	43,040+00	43,093+00	592	Vindicator-Gabbvally-Advokay association	Gabbvally	H2	4 to 13	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	13	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF4	43,040+00	43,093+00	592	Vindicator-Gabbvally-Advokay association	Gabbvally	H3	13 to 17		-	-	-	-	-	-	-	-	--	-	-	-	--	13	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF4	43,040+00	43,093+00	592	Vindicator-Gabbvally-Advokay association	Vindicator	H1	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,040+00	43,093+00	592	Vindicator-Gabbvally-Advokay association	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,040+00	43,093+00	592	Vindicator-Gabbvally-Advokay association	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,040+00	43,093+00	592	Vindicator-Gabbvally-Advokay association	Advokay	H1	0 to 3	SM	--	--	55 - 80	50 - 75	25 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,040+00	43,093+00	592	Vindicator-Gabbvally-Advokay association	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,040+00	43,093+00	592	Vindicator-Gabbvally-Advokay association	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,093+00	43,158+00	224	Advokay-Ardivey-Leo association	Advokay	H1	0 to 3	GM	--	--	55 - 80	50 - 75	25 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	43,093+00	43,158+00	224	Advokay-Ardivey-Leo association	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	43,093+00	43,158+00	224	Advokay-Ardivey-Leo association	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GF4	43,093+00	43,158+00	224	Advokay-Ardivey-Leo association	Ardivey	H1	0 to 4	GC	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,093+00	43,158+00	224	Advokay-Ardivey-Leo association	Ardivey	H2	4 to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,093+00	43,158+00	224	Advokay-Ardivey-Leo association	Ardivey	H3	14 to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,093+00	43,158+00	224	Advokay-Ardivey-Leo association	Leo	H1	0 to 4	GM	--	--	45 - 65	25 - 50	20 - 40	5 - 25	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,093+00	43,158+00	224	Advokay-Ardivey-Leo association	Leo	H2	4 to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,158+00	43,170+00	592	Vindicator-Gabbvally-Advokay association	Gabbvally	H1	0 to 4	GM	5 - 25	5 - 10	60 - 75	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	13	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF4	43,158+00	43,170+00	592	Vindicator-Gabbvally-Advokay association	Gabbvally	H2	4 to 13	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	13	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF4	43,158+00	43,170+00	592	Vindicator-Gabbvally-Advokay association	Gabbvally	H3	13 to 17		-	-	-	-	-	-	-	-	--	-	-	-	--	13	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
GF4	43,158+00	43,170+00	592	Vindicator-Gabbvally-Advokay association	Vindicator	H1	0 to 2	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,158+00	43,170+00	592	Vindicator-Gabbvally-Advokay association	Vindicator	H2	2 to 7	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,158+00	43,170+00	592	Vindicator-Gabbvally-Advokay association	Vindicator	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,158+00	43,170+00	592	Vindicator-Gabbvally-Advokay association	Advokay	H1	0 to 3	SM	--	--	55 - 80	50 - 75	25 - 50	15 - 30	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,158+00	43,170+00	592	Vindicator-Gabbvally-Advokay association	Advokay	H2	3 to 7	GC	--	--	55 - 80	50 - 75	30 - 55	20 - 35	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,158+00	43,170+00	592	Vindicator-Gabbvally-Advokay association	Advokay	H3	7 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	13	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,170+00	43,241+00	710	Tokoper-Blacktop association	Tokoper	H1	0 to 2	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,170+00	43,241+00	710	Tokoper-Blacktop association	Tokoper	H2	2 to 8	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,170+00	43,241+00	710	Tokoper-Blacktop association	Tokoper	H3	8 to 10	GC	5	15 - 35	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,170+00	43,241+00	710	Tokoper-Blacktop association	Tokoper	H4	10 to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,170+00	43,241+00	710	Tokoper-Blacktop association	Tokoper	H5	11 to 15		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,170+00	43,241+00	710	Tokoper-Blacktop association	Blacktop	H1	0 to 4	GM	15 - 25	10 - 20	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
										>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
	From	To								Percent Retained		Percent Passing				Percent		µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
GF4	43,170+00	43,241+00	710	Tokoper-Blacktop association	Blacktop	H2	4	to 8		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,241+00	43,330+00	711	Tokoper-Ardivey association	Tokoper	H1	0	to 2	SM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,241+00	43,330+00	711	Tokoper-Ardivey association	Tokoper	H2	2	to 8	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,241+00	43,330+00	711	Tokoper-Ardivey association	Tokoper	H3	8	to 10	GC-GM	5	15 - 35	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,241+00	43,330+00	711	Tokoper-Ardivey association	Tokoper	H4	10	to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,241+00	43,330+00	711	Tokoper-Ardivey association	Tokoper	H5	11	to 15		-	-	-	-	-	-	-	-	--	-	-	-	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,241+00	43,330+00	711	Tokoper-Ardivey association	Ardivey	H1	0	to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	43,241+00	43,330+00	711	Tokoper-Ardivey association	Ardivey	H2	4	to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	43,241+00	43,330+00	711	Tokoper-Ardivey association	Ardivey	H3	14	to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	43,330+00	43,384+00	710	Tokoper-Blacktop association	Tokoper	H1	0	to 2	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,330+00	43,384+00	710	Tokoper-Blacktop association	Tokoper	H2	2	to 8	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,330+00	43,384+00	710	Tokoper-Blacktop association	Tokoper	H3	8	to 10	GC	5	15 - 35	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,330+00	43,384+00	710	Tokoper-Blacktop association	Tokoper	H4	10	to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,330+00	43,384+00	710	Tokoper-Blacktop association	Tokoper	H5	11	to 15		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,330+00	43,384+00	710	Tokoper-Blacktop association	Blacktop	H1	0	to 4	GM	15 - 25	10 - 20	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,330+00	43,384+00	710	Tokoper-Blacktop association	Blacktop	H2	4	to 8		-	-	-	-	-	-	-	-	--	-	-	-	--	4	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,384+00	43,397+00	711	Tokoper-Ardivey association	Tokoper	H1	0	to 2	SM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,384+00	43,397+00	711	Tokoper-Ardivey association	Tokoper	H2	2	to 8	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,384+00	43,397+00	711	Tokoper-Ardivey association	Tokoper	H3	8	to 10	GC-GM	5	15 - 35	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,384+00	43,397+00	711	Tokoper-Ardivey association	Tokoper	H4	10	to 11		-	-	-	-	-	-	-	-	--	-	-	-	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,384+00	43,397+00	711	Tokoper-Ardivey association	Tokoper	H5	11	to 15		-	-	-	-	-	-	-	-	--	-	-	-	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,384+00	43,397+00	711	Tokoper-Ardivey association	Ardivey	H1	0	to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	43,384+00	43,397+00	711	Tokoper-Ardivey association	Ardivey	H2	4	to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	43,384+00	43,397+00	711	Tokoper-Ardivey association	Ardivey	H3	14	to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Fair	Fair
GF4	43,397+00	43,430+00	471	Ardivey-Izo association	Ardivey	H1	0	to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,397+00	43,430+00	471	Ardivey-Izo association	Ardivey	H2	4	to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,397+00	43,430+00	471	Ardivey-Izo association	Ardivey	H3	14	to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,397+00	43,430+00	471	Ardivey-Izo association	Izo	H1	0	to 8	SW-SM	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,397+00	43,430+00	471	Ardivey-Izo association	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,430+00	43,507+00	2670	ARDIVEY-IZO ASSOCIATION	Ardivey	H1	0	to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,430+00	43,507+00	2670	ARDIVEY-IZO ASSOCIATION	Ardivey	H2	4	to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,430+00	43,507+00	2670	ARDIVEY-IZO ASSOCIATION	Ardivey	H3	14	to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,430+00	43,507+00	2670	ARDIVEY-IZO ASSOCIATION	Izo	H1	0	to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,430+00	43,507+00	2670	ARDIVEY-IZO ASSOCIATION	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,507+00	43,515+00	2690	LEO-IZO ASSOCIATION	Leo	H1	0	to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF4	43,507+00	43,515+00	2690	LEO-IZO ASSOCIATION	Leo	H2	4	to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF4	43,507+00	43,515+00	2690	LEO-IZO ASSOCIATION	Izo	H1	0	to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	43,507+00	43,515+00	2690	LEO-IZO ASSOCIATION	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	43,515+00	43,537+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H1	0	to 3	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,515+00	43,537+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H2	3	to 9	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,515+00	43,537+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H3	9	to 14	GC-GM	5	25 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,515+00	43,537+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H4	14	to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,515+00	43,537+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Tokoper	H5	15	to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,515+00	43,537+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Blacktop	H1	0	to 7	GM	15 - 25	15 - 25	35 - 65	30 - 60	20 - 40	10 - 25	20 - 30	0 - 5	4 - 14	7.4 - 8.4	0 - 4	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,515+00	43,537+00	2252	TOKOPER-BLACKTOP ASSOCIATION	Blacktop	H2	7	to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
GF4	43,515+00	43,537+00	2252	Muni-Alley-Rebel association	Muni	H1	0	to 5	SC-SM	--	--	80 - 90	60 - 75	50 - 65	25 - 35	20 - 25	5 - 10	14 - 42	6.6 - 7.3	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,515+00	43,537+00	2252	Muni-Alley-Rebel association	Muni	H2	5	to 14	CL	--	--	90 - 100	85 - 95	70 - 80	50 - 60	30 - 40	10 - 20	1 - 4	6.6 - 7.8	--	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,515+00	43,537+00	2252	Muni-Alley-Rebel association	Muni	H3	14	to 29		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,515+00	43,537+00	2252	Muni-Alley-Rebel association	Muni	H4	29	to 60	GM	--	10	50 - 65	35 - 55	20 - 30	10 - 20	14	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,515+00	43,537+00	2252	Muni-Alley-Rebel association	Alley	H1	0	to 6	SM	--	5	75 - 85	65 - 75	40 - 50	20 - 30	-	--	14 - 42	6.6 - 7.8	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,515+00	43,537+00	2252	Muni-Alley-Rebel association	Alley	H2	6	to 16	SC	--	10	65 - 80	55 - 75	50 - 65	35 - 50	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,515+00	43,537+00	2252	Muni-Alley-Rebel association	Alley	H3	16	to 60	GC-GM	--	10	60 - 70	50 - 60	35 - 45	25 - 35	20 - 30	0 - 10	1 - 4	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,515+00	43,537+00	2252	Muni-Alley-Rebel association	Rebel	H1	0	to 9	ML	--	--	100 - 100	90 - 100	80 - 100	50 - 80	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,515+00	43,537+00	2252	Muni-Alley-Rebel association	Rebel	H2	9	to 60	ML	--	--	100 - 100	85 - 95	70 - 80	50 - 60	20 - 30	0 - 5	14 - 42	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,537+00	43,613+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H1	0	to 4	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,537+00	43,613+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H2	4	to 14	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,537+00	43,613+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Ardivey	H3	14	to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,537+00	43,613+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H1	0	to 3	SM	--	5	60 - 75	55 - 70	30 - 60	20 - 40	20 - 25	0 - 5	14 - 42	8.5 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF4	43,537+00	43,613+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H2	3	to 8	GC	--	5	35 - 55	25 - 50	20 - 40	15 - 35	25 - 35	10 - 15	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF4	43,537+00	43,613+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Stonell	H3	8	to 60	GM	--	5	35 - 55	25 - 50	10 - 25	5 - 20	-	--	42 - 141	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
GF4	43,537+00	43,613+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Izo	H1	0	to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,537+00	43,613+00	2671	ARDIVEY-STONELL-IZO ASSOCIATION	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,613+00	43,627+00	2690	LEO-IZO ASSOCIATION	Leo	H1	0	to 4	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF4	43,613+00	43,627+00	2690	LEO-IZO ASSOCIATION	Leo	H2	4	to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GF4	43,613+00	43,627+00	2690	LEO-IZO ASSOCIATION	Izo	H1	0	to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	43,613+00	43,627+00	2690	LEO-IZO ASSOCIATION	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GF4	43,627+00	43,713+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Luning	H1	0	to 3	SM	--	--	100 - 100	90 - 100	70 - 85	20 - 35	-	--	42 - 141	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To								>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
										Percent Retained		Percent Passing				Percent		µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
GF4	43,627+00	43,713+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Luning	H2	3	to 60	SM	10	--	75 - 95	55 - 90	45 - 80	10 - 30	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GF4	43,627+00	43,713+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Wardenot	H1	0	to 5	SM	--	--	60 - 80	50 - 75	40 - 60	20 - 40	20 - 25	0 - 5	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,627+00	43,713+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Wardenot	H2	5	to 60	GM	5	10 - 40	25 - 50	20 - 45	15 - 40	5 - 15	-	--	42 - 141	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,627+00	43,713+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Izo	H1	0	to 8	GP	5	15	35 - 60	30 - 50	15 - 35	10	-	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
GF4	43,627+00	43,713+00	2650	LUNING-WARDENOT-IZO ASSOCIATION	Izo	H2	8	to 60	GW	5	15	20 - 40	15 - 35	10 - 20	10	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
Garden Valley 1																														
GV1	5,439+00	5,468+00	3410	Watoopah-Veet association	Watoopah	H1	0	to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,439+00	5,468+00	3410	Watoopah-Veet association	Watoopah	H2	2	to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,439+00	5,468+00	3410	Watoopah-Veet association	Watoopah	H3	12	to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,439+00	5,468+00	3410	Watoopah-Veet association	Veet	H1	0	to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,439+00	5,468+00	3410	Watoopah-Veet association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,439+00	5,468+00	3410	Watoopah-Veet association	Veet	H3	12	to 60	GP-GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,439+00	5,468+00	3410	Watoopah-Veet association	Watoopah	H4	18	to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,468+00	5,505+00	3220	Stewval-Beelem association	Stewval	H1	0	to 1	GC-GM	5 - 15	15 - 25	45 - 60	40 - 55	30 - 45	10 - 25	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	5	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GV1	5,468+00	5,505+00	3220	Stewval-Beelem association	Stewval	H2	1	to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	5	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GV1	5,468+00	5,505+00	3220	Stewval-Beelem association	Stewval	H3	7	to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	5	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
GV1	5,468+00	5,505+00	3220	Stewval-Beelem association	Beelem	H1	0	to 2	SM	--	15 - 40	85 - 95	80 - 90	45 - 55	25 - 35	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	5	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
GV1	5,468+00	5,505+00	3220	Stewval-Beelem association	Beelem	H2	2	to 5	SM	--	10	80 - 90	55 - 75	40 - 50	25 - 35	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	5	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
GV1	5,468+00	5,505+00	3220	Stewval-Beelem association	Beelem	H3	5	to 9		-	-	-	-	-	-	-	-	0.01	-	-	-	--	5	--	Moderate	Low	High	--	Very limited	Poor-Fair	Poor
GV1	5,505+00	5,580+00	3410	Watoopah-Veet association	Watoopah	H1	0	to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,505+00	5,580+00	3410	Watoopah-Veet association	Watoopah	H2	2	to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,505+00	5,580+00	3410	Watoopah-Veet association	Watoopah	H3	12	to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,505+00	5,580+00	3410	Watoopah-Veet association	Veet	H1	0	to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,505+00	5,580+00	3410	Watoopah-Veet association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,505+00	5,580+00	3410	Watoopah-Veet association	Veet	H3	12	to 60	GP-GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,505+00	5,580+00	3410	Watoopah-Veet association	Watoopah	H4	18	to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,580+00	5,591+00	3970	Linoyer-Rebel association	Linoyer	H1	0	to 3	ML	--	--	100 - 100	100 - 100	95 - 100	55 - 70	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV1	5,580+00	5,591+00	3970	Linoyer-Rebel association	Linoyer	H2	3	to 46	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 95	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV1	5,580+00	5,591+00	3970	Linoyer-Rebel association	Linoyer	H3	46	to 60	GM	--	--	20 - 40	10 - 25	5 - 20	15	15 - 20	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV1	5,580+00	5,591+00	3970	Linoyer-Rebel association	Rebel	H1	0	to 16	SM	--	--	95 - 100	90 - 100	50 - 65	20 - 35	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,580+00	5,591+00	3970	Linoyer-Rebel association	Rebel	H2	16	to 60	ML	--	--	100 - 100	85 - 95	70 - 80	50 - 60	20 - 30	0 - 10	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,591+00	5,709+00	3754	Koyen-Watoopah-Geer association	Koyen	H1	0	to 4	SM	--	--	65 - 90	50 - 75	40 - 65	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,591+00	5,709+00	3754	Koyen-Watoopah-Geer association	Koyen	H3	35	to 60	GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,591+00	5,709+00	3754	Koyen-Watoopah-Geer association	Watoopah	H1	0	to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,591+00	5,709+00	3754	Koyen-Watoopah-Geer association	Watoopah	H2	2	to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,591+00	5,709+00	3754	Koyen-Watoopah-Geer association	Watoopah	H3	12	to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,591+00	5,709+00	3754	Koyen-Watoopah-Geer association	Geer	H1	0	to 6	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 65	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GV1	5,591+00	5,709+00	3754	Koyen-Watoopah-Geer association	Geer	H2	6	to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GV1	5,591+00	5,709+00	3754	Koyen-Watoopah-Geer association	Koyen	H2	4	to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,591+00	5,709+00	3754	Koyen-Watoopah-Geer association	Watoopah	H4	18	to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,709+00	5,804+00	3414	Watoopah-Cath association	Watoopah	H1	0	to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,709+00	5,804+00	3414	Watoopah-Cath association	Watoopah	H2	2	to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,709+00	5,804+00	3414	Watoopah-Cath association	Watoopah	H3	12	to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,709+00	5,804+00	3414	Watoopah-Cath association	Cath	H1	0	to 6	SC-SM	--	--	60 - 85	50 - 75	45 - 65	35 - 50	20 - 30	5 - 10	4 - 14	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV1	5,709+00	5,804+00	3414	Watoopah-Cath association	Cath	H2	6	to 20	CL	--	--	80 - 100	65 - 100	60 - 90	40 - 85	35 - 45	15 - 25	0 - 1	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV1	5,709+00	5,804+00	3414	Watoopah-Cath association	Cath	H3	20	to 28	GC	--	--	30 - 60	25 - 50	20 - 40	15 - 35	30 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV1	5,709+00	5,804+00	3414	Watoopah-Cath association	Cath	H4	28	to 60	GM	--	--	30 - 60	25 - 50	20 - 40	5 - 20	-	--	1 - 4	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV1	5,709+00	5,804+00	3414	Watoopah-Cath association	Watoopah	H4	18	to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV1	5,804+00	5,830+00	3137	Unsel-Koyen association	Unsel	H1	0	to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GV1	5,804+00	5,830+00	3137	Unsel-Koyen association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GV1	5,804+00	5,830+00	3137	Unsel-Koyen association	Unsel	H3	11	to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GV1	5,804+00	5,830+00	3137	Unsel-Koyen association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
GV1	5,804+00	5,830+00	3137	Unsel-Koyen association	Koyen	H1	0	to 4	SM	--	--	65 - 90	50 - 75	40 - 65	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GV1	5,804+00	5,830+00	3137	Unsel-Koyen association	Koyen	H3	35	to 60	GW-GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GV1	5,804+00	5,830+00	3137	Unsel-Koyen association	Koyen	H2	4	to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
GV1	5,830+00	6,400+00	No Data					to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
Garden Valley 2																														
GV2	28,000+00	28,120+00	3491	Slaw-Easychair association	Slaw	H1	0	to 9	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 90	15 - 25	5 - 10	4 - 14	8.5 - 9.6	8 - 16	0.0 - 2.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
GV2	28,000+00	28,120+00	3491	Slaw-Easychair association	Easychair	H1	0	to 9	CL	--	--	100 - 100	100 - 100	90 - 100	80 - 90	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GV2	28,000+00	28,120+00	3491	Slaw-Easychair association	Easychair	H2	9	to 46	CL	--	--	100 - 100	90 - 100	90 - 100	80 - 90	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GV2	28,000+00	28,120+00	3491	Slaw-Easychair association	Easychair	H3	46	to 60	SM	--	--	100 - 100	90 - 100	60 - 70	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GV2	28,000+00	28,120+00	3491	Slaw-Easychair association	Slaw	H2	9	to 60	CL	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 45	10 - 20	0 - 1	8.5 - 9.6	16 - 32	3.0 - 5.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
GV2	28,120+00	28,140+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H1	0	to 3	ML	--	--	100 - 100	100 - 100	95 - 100	55 - 70	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV2	28,120+00	28,140+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H2	3	to 46	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 95	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties: >10 inches (Percent Retained)	3 to10 inches (Percent Retained)	#4 Sieve (Percent Passing)	#10 Sieve (Percent Passing)	#40 Sieve (Percent Passing)	#200 Sieve (Percent Passing)	Liquid Limit (Percent)	Plasticity Index (Percent)	Physical and Chemical Properties: Saturated Hydraulic Conductivity (µ M/sec)	Reaction (pH)	Salinity (electrical conductivity) (µ mhos/cm)	Linear Extensibility (shrink-swell) (Percent)	Soil Rock and Water Features: Depth to Water Table (inches)	Depth to Bedrock (inches)	Bedrock Hardness	Frost Action	Risk of Corrosion: Concrete	Uncoated Steel	Site Development: Excavation Difficulty	Local Roads and Streets	Material Source: Sand	Gravel
GV2	28,120+00	28,140+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H3	46 to 60	GM	--	--	20 - 40	10 - 25	5 - 20	15	15 - 20	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV2	28,140+00	28,214+00	3491	Slaw-Easychair association	Slaw	H1	0 to 9	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 90	15 - 25	5 - 10	4 - 14	8.5 - 9.6	8 - 16	0.0 - 2.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
GV2	28,140+00	28,214+00	3491	Slaw-Easychair association	Easychair	H1	0 to 9	CL	--	--	100 - 100	100 - 100	90 - 100	80 - 90	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GV2	28,140+00	28,214+00	3491	Slaw-Easychair association	Easychair	H2	9 to 46	CL	--	--	100 - 100	90 - 100	90 - 100	80 - 90	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GV2	28,140+00	28,214+00	3491	Slaw-Easychair association	Easychair	H3	46 to 60	SM	--	--	100 - 100	90 - 100	60 - 70	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor-Fair	Poor
GV2	28,140+00	28,214+00	3491	Slaw-Easychair association	Slaw	H2	9 to 60	CL	--	--	100 - 100	100 - 100	95 - 100	85 - 95	35 - 45	10 - 20	0 - 1	8.5 - 9.6	16 - 32	3.0 - 5.9	--	--	--	Low	High	High	--	Very limited	Poor	Poor
GV2	28,214+00	28,246+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H1	0 to 3	ML	--	--	100 - 100	100 - 100	95 - 100	55 - 70	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV2	28,214+00	28,246+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H2	3 to 46	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 95	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV2	28,214+00	28,246+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H3	46 to 60	GM	--	--	20 - 40	10 - 25	5 - 20	15	15 - 20	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV2	28,246+00	28,280+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H1	0 to 3	ML	--	--	100 - 100	100 - 100	95 - 100	55 - 70	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV2	28,246+00	28,280+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H2	3 to 46	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 95	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV2	28,246+00	28,280+00	3972	Linoyer very fine sandy loam, 0 to 4 percent slopes	Linoyer	H3	46 to 60	GM	--	--	20 - 40	10 - 25	5 - 20	15	15 - 20	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV2	28,280+00	28,302+00	3311	Ursine-Cliffdown association	Ursine	H1	0 to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
GV2	28,280+00	28,302+00	3311	Ursine-Cliffdown association	Ursine	H2	3 to 19	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
GV2	28,280+00	28,302+00	3311	Ursine-Cliffdown association	Ursine	H3	19 to 23		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
GV2	28,280+00	28,302+00	3311	Ursine-Cliffdown association	Cliffdown	H1	0 to 3	GM	--	5	30 - 55	25 - 50	20 - 35	10 - 30	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV2	28,280+00	28,302+00	3311	Ursine-Cliffdown association	Cliffdown	H2	3 to 60	GM	--	5	45 - 55	40 - 50	30 - 40	15 - 30	14	--	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV2	28,302+00	29,178+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
Garden Valley 3																														
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H1	0 to 1	GM	--	10	45 - 60	30 - 50	20 - 40	10 - 25	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H2	1 to 7	SM	--	5	80 - 95	65 - 90	45 - 65	20 - 35	20 - 25	0 - 5	14 - 42	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H3	7 to 18	GM	--	10	55 - 85	50 - 75	35 - 60	25 - 45	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H4	18 to 28	GM	--	10	40 - 60	35 - 50	20 - 40	10 - 25	20 - 25	0 - 5	4 - 14	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Armespan	H5	28 to 60	GP-GM	--	10	30 - 60	25 - 50	10 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	2 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Cliffdown	H1	0 to 3	GM	--	5	30 - 55	25 - 50	20 - 35	10 - 30	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Candelaria	H1	0 to 7	GM	5	15	35 - 50	30 - 45	25 - 40	10 - 20	20 - 25	0 - 5	4 - 14	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Candelaria	H2	7 to 16	SM	5	10	70 - 80	65 - 75	50 - 60	20 - 35	20 - 25	0 - 5	4 - 14	8.5 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Candelaria	H3	16 to 24	GM	5	10	25 - 45	20 - 45	15 - 25	10 - 20	15 - 25	0 - 5	4 - 14	8.5 - 9.6	8 - 16	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Candelaria	H4	24 to 60	GW	5	10	25 - 45	20 - 35	10 - 20	10	-	--	14 - 42	8.5 - 9.6	4 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV3	30,000+00	30,038+00	3644	Armespan-Cliffdown-Candelaria association	Cliffdown	H2	3 to 60	GM	--	5	45 - 55	40 - 50	30 - 40	15 - 30	14	--	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV3	30,038+00	30,115+00	3311	Ursine-Cliffdown association	Ursine	H1	0 to 3	GC	--	5	40 - 60	30 - 50	25 - 45	20 - 35	20 - 35	5 - 15	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
GV3	30,038+00	30,115+00	3311	Ursine-Cliffdown association	Ursine	H2	3 to 19	GC-GM	--	5	30 - 60	25 - 50	15 - 45	10 - 35	20 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 8	0.0 - 2.9	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
GV3	30,038+00	30,115+00	3311	Ursine-Cliffdown association	Ursine	H3	19 to 23		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Moderate	High	--	Somewhat limited	Fair-Poor	Fair
GV3	30,038+00	30,115+00	3311	Ursine-Cliffdown association	Cliffdown	H1	0 to 3	GM	--	5	30 - 55	25 - 50	20 - 35	10 - 30	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV3	30,038+00	30,115+00	3311	Ursine-Cliffdown association	Cliffdown	H2	3 to 60	GM	--	5	45 - 55	40 - 50	30 - 40	15 - 30	14	--	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
GV3	30,115+00	30,158+00	3970	Linoyer-Rebel association	Linoyer	H1	0 to 3	ML	--	--	100 - 100	100 - 100	95 - 100	55 - 70	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,115+00	30,158+00	3970	Linoyer-Rebel association	Linoyer	H2	3 to 46	CL-ML	--	--	100 - 100	100 - 100	95 - 100	80 - 95	15 - 30	0 - 10	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,115+00	30,158+00	3970	Linoyer-Rebel association	Linoyer	H3	46 to 60	GM	--	--	20 - 40	10 - 25	5 - 20	15	15 - 20	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,115+00	30,158+00	3970	Linoyer-Rebel association	Rebel	H1	0 to 16	SM	--	--	95 - 100	90 - 100	50 - 65	20 - 35	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,115+00	30,158+00	3970	Linoyer-Rebel association	Rebel	H2	16 to 60	ML	--	--	100 - 100	85 - 95	70 - 80	50 - 60	20 - 30	0 - 10	14 - 42	7.4 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,158+00	30,242+00	3754	Koyen-Watoopah-Geer association	Koyen	H1	0 to 4	SM	--	--	65 - 90	50 - 75	40 - 65	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,158+00	30,242+00	3754	Koyen-Watoopah-Geer association	Koyen	H3	35 to 60	GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,158+00	30,242+00	3754	Koyen-Watoopah-Geer association	Watoopah	H1	0 to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,158+00	30,242+00	3754	Koyen-Watoopah-Geer association	Watoopah	H2	2 to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,158+00	30,242+00	3754	Koyen-Watoopah-Geer association	Watoopah	H3	12 to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,158+00	30,242+00	3754	Koyen-Watoopah-Geer association	Geer	H1	0 to 6	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 65	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,158+00	30,242+00	3754	Koyen-Watoopah-Geer association	Geer	H2	6 to 60	CL-ML	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,158+00	30,242+00	3754	Koyen-Watoopah-Geer association	Koyen	H2	4 to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,158+00	30,242+00	3754	Koyen-Watoopah-Geer association	Watoopah	H4	18 to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,242+00	30,402+00	3333	NOPAH LOAM	Nopah	H1	0 to 6	CL-ML	--	--	100 - 100	100 - 100	80 - 90	70 - 85	20 - 30	0 - 10	1 - 4	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Very limited	Poor	Poor
GV3	30,242+00	30,402+00	3333	NOPAH LOAM	Nopah	H2	6 to 60	CL	--	--	100 - 100	100 - 100	95 - 100	85 - 95	30 - 50	10 - 20	0 - 1	8.5 - 9.6	2 - 16	3.0 - 5.9	--	--	--	Low	Moderate	High	--	Very limited	Poor	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H1	0 to 7	GM	--	10	60 - 85	50 - 75	40 - 65	25 - 35	15 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H2	7 to 14	SC	--	10	60 - 85	60 - 75	50 - 60	40 - 50	35 - 40	15 - 20	0 - 1	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H3	14 to 18	GP-GM	5	10 - 25	40 - 55	25 - 45	20 - 30	5 - 15	-	--	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H4	18 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H5	24 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Watoopah	H1	0 to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Watoopah	H2	2 to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Watoopah	H3	12 to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Zadvar	H1	0 to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 Inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	Inches	Inches								
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Zadvar	H2	3 to 10	CL	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Zadvar	H3	10 to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Watoopah	H4	18 to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,242+00	30,402+00	3333	Handpah-Watoopah-Zadvar association	Zadvar	H4	14 to 60	GW-GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,402+00	30,428+00	3414	Watoopah-Cath association	Watoopah	H1	0 to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,402+00	30,428+00	3414	Watoopah-Cath association	Watoopah	H2	2 to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,402+00	30,428+00	3414	Watoopah-Cath association	Watoopah	H3	12 to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,402+00	30,428+00	3414	Watoopah-Cath association	Cath	H1	0 to 6	SC-SM	--	--	60 - 85	50 - 75	45 - 65	35 - 50	20 - 30	5 - 10	4 - 14	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,402+00	30,428+00	3414	Watoopah-Cath association	Cath	H2	6 to 20	CL	--	--	80 - 100	65 - 100	60 - 90	40 - 85	35 - 45	15 - 25	0 - 1	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,402+00	30,428+00	3414	Watoopah-Cath association	Cath	H3	20 to 28	GC	--	--	30 - 60	25 - 50	20 - 40	15 - 35	30 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,402+00	30,428+00	3414	Watoopah-Cath association	Cath	H4	28 to 60	GM	--	--	30 - 60	25 - 50	20 - 40	5 - 20	-	--	1 - 4	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,402+00	30,428+00	3414	Watoopah-Cath association	Watoopah	H4	18 to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,428+00	30,630+00	3333	NOPAH LOAM	Nopah	H1	0 to 6	CL-ML	--	--	100 - 100	100 - 100	80 - 90	70 - 85	20 - 30	0 - 10	1 - 4	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Moderate	High	--	Very limited	Poor	Poor
GV3	30,428+00	30,630+00	3333	NOPAH LOAM	Nopah	H2	6 to 60	CL	--	--	100 - 100	100 - 100	95 - 100	85 - 95	30 - 50	10 - 20	0 - 1	8.5 - 9.6	2 - 16	3.0 - 5.9	--	--	--	Low	Moderate	High	--	Very limited	Poor	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H1	0 to 7	GM	--	10	60 - 85	50 - 75	40 - 65	25 - 35	15 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H2	7 to 14	SC	--	10	60 - 85	60 - 75	50 - 60	40 - 50	35 - 40	15 - 20	0 - 1	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H3	14 to 18	GP-GM	5	10 - 25	40 - 55	25 - 45	20 - 30	5 - 15	-	--	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H4	18 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Handpah	H5	24 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Watoopah	H1	0 to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Watoopah	H2	2 to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Watoopah	H3	12 to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Zadvar	H1	0 to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Zadvar	H2	3 to 10	CL	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Zadvar	H3	10 to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Watoopah	H4	18 to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
GV3	30,428+00	30,630+00	3333	Handpah-Watoopah-Zadvar association	Zadvar	H4	14 to 60	GW-GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
GV3	30,630+00	31,016+00	No Data				to		-	-	-	-	-	-	-	-	-	-	-	-	--	--	--				--			
Oasis Valley 1																														
OV1	16,050+00	16,110+00	2215	YERMO-GREYEAGLE ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV1	16,050+00	16,110+00	2215	YERMO-GREYEAGLE ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV1	16,050+00	16,110+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
OV1	16,050+00	16,110+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
OV1	16,050+00	16,110+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
OV1	16,050+00	16,110+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
OV1	16,050+00	16,110+00	2215	YERMO-GREYEAGLE ASSOCIATION	Greyeagle	H5	24 to 60	GM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair-Poor	Fair
OV1	16,110+00	16,200+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H1	0 to 4	SM	--	--	65 - 80	55 - 75	50 - 65	20 - 45	-	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,110+00	16,200+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H2	4 to 32	SM	--	--	65 - 80	55 - 75	45 - 65	20 - 45	-	--	14 - 42	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,110+00	16,200+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H3	32 to 56	SM	--	10 - 25	60 - 70	50 - 60	35 - 55	20 - 30	-	--	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,110+00	16,200+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H4	56 to 60		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,110+00	16,200+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H1	0 to 3	SM	--	--	75 - 90	60 - 75	40 - 55	20 - 35	14	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,110+00	16,200+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H2	3 to 8	SC	--	--	75 - 90	50 - 75	45 - 60	35 - 50	30 - 50	10 - 25	1 - 4	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,110+00	16,200+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H3	8 to 60	SM	--	--	70 - 85	50 - 75	10 - 30	5 - 20	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,110+00	16,200+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV1	16,110+00	16,200+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H2	8 to 60	GP	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV1	16,200+00	16,225+00	2482	BACHO-YERMO ASSOCIATION	Bacho	H1	0 to 3	GM	5	15	30 - 55	25 - 50	15 - 35	10 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
OV1	16,200+00	16,225+00	2482	BACHO-YERMO ASSOCIATION	Bacho	H2	3 to 11	GC	5	10	30 - 55	25 - 50	20 - 45	10 - 35	40 - 55	15 - 25	0 -	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
OV1	16,200+00	16,225+00	2482	BACHO-YERMO ASSOCIATION	Bacho	H3	11 to 36		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
OV1	16,200+00	16,225+00	2482	BACHO-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV1	16,200+00	16,225+00	2482	BACHO-YERMO ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV1	16,225+00	16,280+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H1	0 to 4	SM	--	--	65 - 80	55 - 75	50 - 65	20 - 45	-	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,225+00	16,280+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H2	4 to 32	SM	--	--	65 - 80	55 - 75	45 - 65	20 - 45	-	--	14 - 42	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,225+00	16,280+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H3	32 to 56	SM	--	10 - 25	60 - 70	50 - 60	35 - 55	20 - 30	-	--	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,225+00	16,280+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H4	56 to 60		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,225+00	16,280+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H1	0 to 3	SM	--	--	75 - 90	60 - 75	40 - 55	20 - 35	14	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,225+00	16,280+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H2	3 to 8	SC	--	--	75 - 90	50 - 75	45 - 60	35 - 50	30 - 50	10 - 25	1 - 4	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,225+00	16,280+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H3	8 to 60	SM	--	--	70 - 85	50 - 75	10 - 30	5 - 20	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,225+00	16,280+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV1	16,225+00	16,280+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H2	8 to 60	GP	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV1	16,280+00	16,300+00	2131	UPSPRING-SHORIM-ROCK OUTCROP ASSOCIATION	Upspring	H1	0 to 2	GM	--	10	35 - 50	25 - 40	15 - 30	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	12	--	None	Low	High	--	Very limited	Fair-Poor	Fair
OV1	16,280+00	16,300+00	2131	UPSPRING-SHORIM-ROCK OUTCROP ASSOCIATION	Upspring	H2	2 to 12	GM	--	25	40 - 55	35 - 50	25 - 40	10 - 20	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	12	--	None	Low	High	--	Very limited	Fair-Poor	Fair
OV1	16,280+00	16,300+00	2131	UPSPRING-SHORIM-ROCK OUTCROP ASSOCIATION	Upspring	H3	12 to 22		-	-	-	-	-	-	-	-	0.01	-	-	-	--	12	--	None	Low	High	--	Very limited	Fair-Poor	Fair
OV1	16,280+00	16,300+00	2131	UPSPRING-SHORIM-ROCK OUTCROP ASSOCIATION	Shorim	H1	0 to 3	GM	--	10	35 - 60	25 - 55	20 - 45	10 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	12	--	None	Low	High	--	Very limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To							>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	Inches	Inches								
OV1	16,280+00	16,300+00	2131	UPSPRING-SHORIM-ROCK OUTCROP ASSOCIATION	Shorim	H2	3 to 10	SM	--	5	65 - 75	55 - 65	35 - 45	20 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	12	--	None	Low	High	--	Very limited	Poor	Poor
OV1	16,280+00	16,300+00	2131	UPSPRING-SHORIM-ROCK OUTCROP ASSOCIATION	Shorim	H3	10 to 21	GM	--	10	30 - 65	25 - 55	15 - 40	5 - 20	15 - 25	0 - 5	14 - 42	8.5 - 9.0	0 - 2	0.0 - 2.9	--	12	--	None	Low	High	--	Very limited	Poor	Poor
OV1	16,280+00	16,300+00	2131	UPSPRING-SHORIM-ROCK OUTCROP ASSOCIATION	Shorim	H4	21 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	12	--	None	Low	High	--	Very limited	Poor	Poor
OV1	16,280+00	16,300+00	2131	UPSPRING-SHORIM-ROCK OUTCROP ASSOCIATION	Shorim	H5	24 to 30		-	-	-	-	-	-	-	-	0.01	-	-	-	--	12	--	None	Low	High	--	Very limited	Poor	Poor
OV1	16,280+00	16,300+00	2131	Roic-Vindicator-Rock outcrop association	Roic	H1	0 to 1	GM	--	5	40 - 60	30 - 50	20 - 40	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Very limited	Poor-Fair	Poor
OV1	16,280+00	16,300+00	2131	Roic-Vindicator-Rock outcrop association	Roic	H2	1 to 5	CL-ML	--	--	90 - 100	80 - 100	70 - 90	35 - 70	20 - 30	0 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Very limited	Poor-Fair	Poor
OV1	16,280+00	16,300+00	2131	Roic-Vindicator-Rock outcrop association	Roic	H3	5 to 9		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	High	High	--	Very limited	Poor-Fair	Poor
OV1	16,280+00	16,300+00	2131	Roic-Vindicator-Rock outcrop association	Vindicator	H1	0 to 4	SM	--	10	70 - 85	65 - 80	40 - 50	25 - 40	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
OV1	16,280+00	16,300+00	2131	Roic-Vindicator-Rock outcrop association	Vindicator	H2	4 to 14	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
OV1	16,280+00	16,300+00	2131	Roic-Vindicator-Rock outcrop association	Vindicator	H3	14 to 18		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Very limited	Poor	Poor
OV1	16,300+00	16,320+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H1	0 to 4	SM	--	--	65 - 80	55 - 75	50 - 65	20 - 45	-	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,300+00	16,320+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H2	4 to 32	SM	--	--	65 - 80	55 - 75	45 - 65	20 - 45	-	--	14 - 42	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,300+00	16,320+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H3	32 to 56	SM	--	10 - 25	60 - 70	50 - 60	35 - 55	20 - 30	-	--	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,300+00	16,320+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H4	56 to 60		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,300+00	16,320+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H1	0 to 3	SM	--	--	75 - 90	60 - 75	40 - 55	20 - 35	14	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,300+00	16,320+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H2	3 to 8	SC	--	--	75 - 90	50 - 75	45 - 60	35 - 50	30 - 50	10 - 25	1 - 4	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,300+00	16,320+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H3	8 to 60	SM	--	--	70 - 85	50 - 75	10 - 30	5 - 20	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,300+00	16,320+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV1	16,300+00	16,320+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H2	8 to 60	GP	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Orwash	H1	0 to 3	SM	--	5	85 - 95	55 - 70	35 - 60	20 - 30	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Orwash	H2	3 to 18	SM	--	10	85 - 95	55 - 75	25 - 35	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Orwash	H3	18 to 60	SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Louderback	H1	0 to 3	SM	--	--	95 - 100	85 - 100	45 - 60	10 - 25	14	--	42 - 141	9.1 - 11.0	16 - 32	0.0 - 2.9	48	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Louderback	H2	3 to 40	SM	--	--	100 - 100	100 - 100	50 - 60	5 - 15	14	--	42 - 141	9.1 - 11.0	2 - 4	0.0 - 2.9	48	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Louderback	H3	40 to 60	SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Arizo	H2	8 to 60	GP	--	--	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Typic Halaquepts	H1	0 to 9	CL-ML	--	--	100 - 100	100 - 100	85 - 100	65 - 85	25 - 30	5 - 10	4 - 14	8.5 - 9.6	8 - 16	0.0 - 2.9	48	--	--	High	High	High	--	Somewhat limited	Poor	Poor
OV1	16,320+00	16,370+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Typic Halaquepts	H2	9 to 60	SC-SM	--	--	100 - 100	90 - 100	60 - 75	40 - 60	20 - 30	0 - 10	4 - 14	7.9 - 9.6	2 - 8	0.0 - 2.9	48	--	--	High	High	High	--	Somewhat limited	Poor	Poor
OV1	16,370+00	16,450+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H1	0 to 4	SM	--	--	65 - 80	55 - 75	50 - 65	20 - 45	-	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,370+00	16,450+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H2	4 to 32	SM	--	--	65 - 80	55 - 75	45 - 65	20 - 45	-	--	14 - 42	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,370+00	16,450+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H3	32 to 56	SM	--	10 - 25	60 - 70	50 - 60	35 - 55	20 - 30	-	--	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,370+00	16,450+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H4	56 to 60		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV1	16,370+00	16,450+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H1	0 to 3	SM	--	--	75 - 90	60 - 75	40 - 55	20 - 35	14	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,370+00	16,450+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H2	3 to 8	SC	--	--	75 - 90	50 - 75	45 - 60	35 - 50	30 - 50	10 - 25	1 - 4	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,370+00	16,450+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H3	8 to 60	SM	--	--	70 - 85	50 - 75	10 - 30	5 - 20	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV1	16,370+00	16,450+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV1	16,370+00	16,450+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H2	8 to 60	GP	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
Oasis Valley 3																														
OV3	46,000+00	46,025+00	2482	BACHO-YERMO ASSOCIATION	Bacho	H1	0 to 3	GM	5	15	30 - 55	25 - 50	15 - 35	10 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
OV3	46,000+00	46,025+00	2482	BACHO-YERMO ASSOCIATION	Bacho	H2	3 to 11	GC	5	10	30 - 55	25 - 50	20 - 45	10 - 35	40 - 55	15 - 25	0 -	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
OV3	46,000+00	46,025+00	2482	BACHO-YERMO ASSOCIATION	Bacho	H3	11 to 36		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
OV3	46,000+00	46,025+00	2482	BACHO-YERMO ASSOCIATION	Yermo	H1	0 to 6	GC-GM	--	5 - 20	35 - 55	30 - 50	15 - 45	10 - 30	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV3	46,000+00	46,025+00	2482	BACHO-YERMO ASSOCIATION	Yermo	H2	6 to 60	GC-GM	--	10 - 25	35 - 55	30 - 55	15 - 50	10 - 35	15 - 25	0 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV3	46,025+00	46,162+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H1	0 to 4	SM	--	--	65 - 80	55 - 75	50 - 65	20 - 45	-	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV3	46,025+00	46,162+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H2	4 to 32	SM	--	--	65 - 80	55 - 75	45 - 65	20 - 45	-	--	14 - 42	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV3	46,025+00	46,162+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H3	32 to 56	SM	--	10 - 25	60 - 70	50 - 60	35 - 55	20 - 30	-	--	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV3	46,025+00	46,162+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H4	56 to 60		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV3	46,025+00	46,162+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H1	0 to 3	SM	--	--	75 - 90	60 - 75	40 - 55	20 - 35	14	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV3	46,025+00	46,162+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H2	3 to 8	SC	--	--	75 - 90	50 - 75	45 - 60	35 - 50	30 - 50	10 - 25	1 - 4	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV3	46,025+00	46,162+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H3	8 to 60	SM	--	--	70 - 85	50 - 75	10 - 30	5 - 20	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV3	46,025+00	46,162+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV3	46,025+00	46,162+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H2	8 to 60	GP	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To								>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
										Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
OV3	46,162+00	46,170+00	2401	SKELON-BACHO ASSOCIATION	Skelon	H1	0	to 4	GM	--	10	35 - 55	25 - 50	20 - 40	10 - 20	-	--	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV3	46,162+00	46,170+00	2401	SKELON-BACHO ASSOCIATION	Skelon	H2	4	to 28	GM	--	10	35 - 55	25 - 50	15 - 35	5 - 15	-	--	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV3	46,162+00	46,170+00	2401	SKELON-BACHO ASSOCIATION	Skelon	H3	28	to 44		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV3	46,162+00	46,170+00	2401	SKELON-BACHO ASSOCIATION	Skelon	H4	44	to 52	GM	5	15	35 - 55	30 - 50	15 - 40	10 - 25	-	--	14 - 42	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV3	46,162+00	46,170+00	2401	SKELON-BACHO ASSOCIATION	Skelon	H5	52	to 60	GP	5	10 - 25	20 - 35	15 - 30	5 - 15	5	-	--	42 - 141	8.5 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV3	46,162+00	46,170+00	2401	SKELON-BACHO ASSOCIATION	Bacho	H1	0	to 3	GM	5	15	30 - 55	25 - 50	15 - 35	10 - 25	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
OV3	46,162+00	46,170+00	2401	SKELON-BACHO ASSOCIATION	Bacho	H2	3	to 11	GC	5	10	30 - 55	25 - 50	20 - 45	10 - 35	40 - 55	15 - 25	0 -	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
OV3	46,162+00	46,170+00	2401	SKELON-BACHO ASSOCIATION	Bacho	H3	11	to 36		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Zaidy	H1	0	to 4	GC-GM	--	10 - 15	50 - 65	40 - 55	35 - 50	20 - 30	20 - 30	0 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Zaidy	H2	4	to 22	CL	--	--	75 - 90	60 - 85	55 - 70	45 - 60	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Zaidy	H3	22	to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Ricert	H1	0	to 6	SC-SM	--	--	65 - 80	50 - 75	40 - 60	25 - 40	20 - 30	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Ricert	H2	6	to 18	CL	--	--	90 - 100	85 - 100	80 - 90	70 - 80	35 - 45	15 - 20	1 - 4	8.5 - 9.0	2 - 8	3.0 - 5.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Ricert	H3	18	to 31	CL	--	5	85 - 100	80 - 95	60 - 75	50 - 70	30 - 40	10 - 15	4 - 14	8.5 - 9.0	2 - 8	3.0 - 5.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Ricert	H4	31	to 60	GM	--	15	30 - 60	20 - 50	15 - 35	5 - 25	14	--	14 - 42	8.5 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Fair	Fair
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Alley	H1	0	to 6	SM	--	5	75 - 85	65 - 75	40 - 50	20 - 30	-	--	14 - 42	6.6 - 7.3	--	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Alley	H2	6	to 16	GC	--	10	65 - 80	55 - 75	50 - 65	35 - 50	30 - 40	10 - 15	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,162+00	46,170+00	2401	Zaidy-Ricert-Alley association	Alley	H3	16	to 60	SC-SM	--	10	60 - 70	50 - 60	35 - 45	25 - 35	20 - 30	0 - 10	1 - 4	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Orwash	H1	0	to 3	SM	--	5	85 - 95	55 - 70	35 - 60	20 - 30	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Orwash	H2	3	to 18	SM	--	10	85 - 95	55 - 75	25 - 35	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Orwash	H3	18	to 60	SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Louderback	H1	0	to 3	SM	--	--	95 - 100	85 - 100	45 - 60	10 - 25	14	--	42 - 141	9.1 - 11.0	16 - 32	0.0 - 2.9	48	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Louderback	H2	3	to 40	SM	--	--	100 - 100	100 - 100	50 - 60	5 - 15	14	--	42 - 141	9.1 - 11.0	2 - 4	0.0 - 2.9	48	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Louderback	H3	40	to 60	SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Arizo	H1	0	to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Arizo	H2	8	to 60	GP	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	48	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Typic Halaquepts	H1	0	to 9	CL-ML	--	--	100 - 100	100 - 100	85 - 100	65 - 85	25 - 30	5 - 10	4 - 14	8.5 - 9.6	8 - 16	0.0 - 2.9	48	--	--	High	High	High	--	Somewhat limited	Poor	Poor
OV3	46,170+00	46,200+00	2422	ORWASH-LOUDERBACK-ARIZO COMPLEX, 2 TO 4 PERCENT SLOPES	Typic Halaquepts	H2	9	to 60	SC-SM	--	--	100 - 100	90 - 100	60 - 75	40 - 60	20 - 30	0 - 10	4 - 14	7.9 - 9.6	2 - 8	0.0 - 2.9	48	--	--	High	High	High	--	Somewhat limited	Poor	Poor
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H1	0	to 3	SM	--	5	85 - 95	55 - 70	35 - 60	20 - 30	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H2	3	to 18	SM	--	10	85 - 95	55 - 75	25 - 35	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H3	18	to 60	SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H1	0	to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H2	3	to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H3	6	to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H4	8	to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H1	0	to 2	GM	--	5	35 - 60	25 - 50	15 - 30	5 - 15	-	--	14 - 42	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H2	2	to 30	CL-ML	--	--	95 - 100	85 - 100	60 - 75	35 - 65	15 - 25	0 - 10	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H3	30	to 31		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H4	31	to 60	SM	--	--	95 - 100	85 - 100	60 - 70	35 - 45	-	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,200+00	46,313+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H5	24	to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
OV3	46,313+00	46,335+00	2152	ARIZO VERY GRAVELLY SANDY LOAM, MOIST, 0 TO 2 PERCENT SLOPES	Arizo	H1	0	to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
OV3	46,313+00	46,335+00	2152	ARIZO VERY GRAVELLY SANDY LOAM, MOIST, 0 TO 2 PERCENT SLOPES	Arizo	H2	8	to 60	GP-GM	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Very limited	Fair	Fair
OV3	46,335+00	46,413+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H1	0	to 4	SM	--	--	65 - 80	55 - 75	50 - 65	20 - 45	-	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
OV3	46,335+00	46,413+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H2	4 to 32	SM	--	--	65 - 80	55 - 75	45 - 65	20 - 45	-	--	14 - 42	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV3	46,335+00	46,413+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H3	32 to 56	SM	--	10 - 25	60 - 70	50 - 60	35 - 55	20 - 30	-	--	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV3	46,335+00	46,413+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Corbilt	H4	56 to 60		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Not limited	Poor	Poor
OV3	46,335+00	46,413+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H1	0 to 3	SM	--	--	75 - 90	60 - 75	40 - 55	20 - 35	14	--	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV3	46,335+00	46,413+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H2	3 to 8	SC	--	--	75 - 90	50 - 75	45 - 60	35 - 50	30 - 50	10 - 25	1 - 4	7.9 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV3	46,335+00	46,413+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Migern	H3	8 to 60	SM	--	--	70 - 85	50 - 75	10 - 30	5 - 20	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
OV3	46,335+00	46,413+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H1	0 to 8	GM	--	5	30 - 55	25 - 50	20 - 40	10 - 20	15 - 20	0 - 5	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV3	46,335+00	46,413+00	2202	CORBILT-MIGERN-ARIZO ASSOCIATION	Arizo	H2	8 to 60	GP	--	10 - 35	35 - 55	20 - 50	10 - 30	10	-	--	141 - 705	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H1	0 to 3	SM	--	5	85 - 95	55 - 70	35 - 60	20 - 30	-	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H2	3 to 18	SM	--	10	85 - 95	55 - 75	25 - 35	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Orwash	H3	18 to 60	SM	--	--	85 - 95	50 - 65	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H1	0 to 3	GM	--	10	30 - 55	25 - 50	15 - 30	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H2	3 to 6	SM	--	--	60 - 75	50 - 65	30 - 45	15 - 30	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H3	6 to 8	GM	--	--	30 - 55	25 - 50	15 - 35	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H4	8 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H1	0 to 2	GM	--	5	35 - 60	25 - 50	15 - 30	5 - 15	-	--	14 - 42	7.9 - 9.0	8 - 16	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H2	2 to 30	CL-ML	--	--	95 - 100	85 - 100	60 - 75	35 - 65	15 - 25	0 - 10	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H3	30 to 31		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Wanomie	H4	31 to 60	SM	--	--	95 - 100	85 - 100	60 - 70	35 - 45	-	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--		High	High	--	Somewhat limited	Poor-Fair	Poor
OV3	46,413+00	46,470+00	2423	ORWASH-GREYEAGLE-WANOMIE ASSOCIATION	Greyeagle	H5	24 to 60	SM	--	25 - 65	30 - 65	25 - 60	15 - 30	5 - 15	14	--	42 - 141	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair-Poor	Fair
South Revelle 2																														
SR2	36,000+00	36,056+00	3137	Unsel-Koyen association	Unsel	H1	0 to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR2	36,000+00	36,056+00	3137	Unsel-Koyen association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR2	36,000+00	36,056+00	3137	Unsel-Koyen association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR2	36,000+00	36,056+00	3137	Unsel-Koyen association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR2	36,000+00	36,056+00	3137	Unsel-Koyen association	Koyen	H1	0 to 4	SM	--	--	65 - 90	50 - 75	40 - 65	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR2	36,000+00	36,056+00	3137	Unsel-Koyen association	Koyen	H3	35 to 60	GW-GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR2	36,000+00	36,056+00	3137	Unsel-Koyen association	Koyen	H2	4 to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H1	0 to 2	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H2	2 to 5	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H3	5 to 9	GC-GM	5	15 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H4	9 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H5	15 to 19		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H1	0 to 1	GM	--	10	35 - 60	25 - 50	15 - 35	5 - 15	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H2	1 to 6	SM	--	5	80 - 90	75 - 90	55 - 80	20 - 40	20 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H3	6 to 10	ML	--	5	70 - 85	50 - 75	40 - 60	30 - 55	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H4	10 to 21		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,056+00	36,075+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H5	21 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,075+00	36,085+00	3137	Unsel-Koyen association	Unsel	H1	0 to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR2	36,075+00	36,085+00	3137	Unsel-Koyen association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR2	36,075+00	36,085+00	3137	Unsel-Koyen association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR2	36,075+00	36,085+00	3137	Unsel-Koyen association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR2	36,075+00	36,085+00	3137	Unsel-Koyen association	Koyen	H1	0 to 4	SM	--	--	65 - 90	50 - 75	40 - 65	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR2	36,075+00	36,085+00	3137	Unsel-Koyen association	Koyen	H3	35 to 60	GW-GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR2	36,075+00	36,085+00	3137	Unsel-Koyen association	Koyen	H2	4 to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR2	36,085+00	36,178+00	3842	Veet-Koyen-Geer association	Veet	H1	0 to 4	SM	--	10	75 - 90	50 - 75	40 - 60	25 - 35	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR2	36,085+00	36,178+00	3842	Veet-Koyen-Geer association	Veet	H2	4 to 12	GC	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR2	36,085+00	36,178+00	3842	Veet-Koyen-Geer association	Veet	H3	12 to 60	GP-GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR2	36,085+00	36,178+00	3842	Veet-Koyen-Geer association	Koyen	H1	0 to 4	SM	--	--	90 - 100	75 - 100	40 - 60	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR2	36,085+00	36,178+00	3842	Veet-Koyen-Geer association	Koyen	H3	35 to 60	SM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR2	36,085+00	36,178+00	3842	Veet-Koyen-Geer association	Geer	H1	0 to 6	ML	--	--	100 - 100	100 - 100	85 - 95	40 - 65	15 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR2	36,085+00	36,178+00	3842	Veet-Koyen-Geer association	Geer	H2	6 to 60	SM	--	--	100 - 100	100 - 100	85 - 95	45 - 75	15 - 30	0 - 10	4 - 14	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR2	36,085+00	36,178+00	3842	Veet-Koyen-Geer association	Koyen	H2	4 to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Belted	H1	0 to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Belted	H2	4 to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station From	Station To	Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
									>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Belted	H3	11 to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Belted	H4	17 to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0 to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,178+00	36,187+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H1	0 to 1	GM	5 - 25	20 - 30	50 - 70	45 - 65	40 - 60	25 - 35	-	--	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H2	1 to 4	ML	--	--	90 - 100	90 - 100	80 - 90	50 - 60	20 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H3	4 to 11	CL	--	5	80 - 95	75 - 90	60 - 75	55 - 70	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H4	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H5	15 to 19		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H1	0 to 1	GC	5 - 15	15 - 25	45 - 60	40 - 55	30 - 45	10 - 25	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H1	0 to 2	GM	5 - 25	5 - 10	60 - 75	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H2	2 to 11	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,187+00	36,204+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H3	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Belted	H1	0 to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Belted	H2	4 to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Belted	H3	11 to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Belted	H4	17 to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0 to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,204+00	36,211+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H1	0 to 1	GM	5 - 25	20 - 30	50 - 70	45 - 65	40 - 60	25 - 35	-	--	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H2	1 to 4	ML	--	--	90 - 100	90 - 100	80 - 90	50 - 60	20 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H3	4 to 11	CL	--	5	80 - 95	75 - 90	60 - 75	55 - 70	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H4	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H5	15 to 19		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H1	0 to 1	GC	5 - 15	15 - 25	45 - 60	40 - 55	30 - 45	10 - 25	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H1	0 to 2	GM	5 - 25	5 - 10	60 - 75	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H2	2 to 11	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,211+00	36,221+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H3	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Belted	H1	0 to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Belted	H2	4 to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Belted	H3	11 to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Belted	H4	17 to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0 to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,221+00	36,231+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H1	0 to 1	GM	5 - 25	20 - 30	50 - 70	45 - 65	40 - 60	25 - 35	-	--	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H2	1 to 4	ML	--	--	90 - 100	90 - 100	80 - 90	50 - 60	20 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H3	4 to 11	CL	--	5	80 - 95	75 - 90	60 - 75	55 - 70	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H4	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H5	15 to 19		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H1	0 to 1	GC	5 - 15	15 - 25	45 - 60	40 - 55	30 - 45	10 - 25	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H1	0 to 2	GM	5 - 25	5 - 10	60 - 75	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H2	2 to 11	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,231+00	36,237+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H3	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Belted	H1	0 to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Belted	H2	4 to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Belted	H3	11 to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To							>10 Inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Belted	H4	17 to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0 to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,237+00	36,245+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H1	0 to 1	GM	5 - 25	20 - 30	50 - 70	45 - 65	40 - 60	25 - 35	-	--	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H2	1 to 4	ML	--	--	90 - 100	90 - 100	80 - 90	50 - 60	20 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H3	4 to 11	CL	--	5	80 - 95	75 - 90	60 - 75	55 - 70	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H4	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H5	15 to 19		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H1	0 to 1	GC	5 - 15	15 - 25	45 - 60	40 - 55	30 - 45	10 - 25	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H2	1 to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H3	7 to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H1	0 to 2	GM	5 - 25	5 - 10	60 - 75	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H2	2 to 11	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,245+00	36,250+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H3	11 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Belted	H1	0 to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Belted	H2	4 to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Belted	H3	11 to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Belted	H4	17 to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0 to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,250+00	36,255+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H1	0 to 2	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H2	2 to 5	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H3	5 to 9	GC-GM	5	15 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H4	9 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H5	15 to 19		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H1	0 to 1	GM	--	10	35 - 60	25 - 50	15 - 35	5 - 15	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H2	1 to 6	SM	--	5	80 - 90	75 - 90	55 - 80	20 - 40	20 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H3	6 to 10	ML	--	5	70 - 85	50 - 75	40 - 60	30 - 55	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H4	10 to 21		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,255+00	36,331+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H5	21 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Belted	H1	0 to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Belted	H2	4 to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Belted	H3	11 to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Belted	H4	17 to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0 to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR2	36,331+00	36,478+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
South Revelle 3																														
SR3	4,710+00	7,420+00	3410	Watoopah-Veet association	Watoopah	H1	0 to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	4,710+00	7,420+00	3410	Watoopah-Veet association	Watoopah	H2	2 to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	4,710+00	7,420+00	3410	Watoopah-Veet association	Watoopah	H3	12 to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	4,710+00	7,420+00	3410	Watoopah-Veet association	Veet	H1	0 to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	4,710+00	7,420+00	3410	Watoopah-Veet association	Veet	H2	4 to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	4,710+00	7,420+00	3410	Watoopah-Veet association	Veet	H3	12 to 60	GP-GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	4,710+00	7,420+00	3410	Watoopah-Veet association	Watoopah	H4	18 to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,420+00	7,430+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Bluepoint	H1	0 to 9	SM	--	--	100 - 100	100 - 100	75 - 85	25 - 45	-	--	42 - 141	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,420+00	7,430+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Bluepoint	H2	9 to 17	SM	--	--	70 - 100	60 - 90	55 - 85	10 - 30	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,420+00	7,430+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Bluepoint	H3	17 to 41	SM	--	--	100 - 100	100 - 100	65 - 85	25 - 45	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,420+00	7,430+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Bluepoint	H4	41 to 60	ML	--	--	100 - 100	100 - 100	50 - 90	30 - 60	-	--	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To								>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
										Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
SR3	7,420+00	7,430+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Besherm	H1	0	to 2	CL	--	--	100 - 100	100 - 100	75 - 90	65 - 80	35 - 50	15 - 25	1 - 4	8.5 - 9.0	8 - 16	3.0 - 5.9	--	--	--	Low	High	High	--	Somewhat limited	Poor	Poor
SR3	7,420+00	7,430+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Besherm	H2	2	to 11	MH	--	--	100 - 100	100 - 100	90 - 100	80 - 90	45 - 65	20 - 30	0 - 1	8.5 - 9.0	8 - 16	6.0 - 8.9	--	--	--	Low	High	High	--	Somewhat limited	Poor	Poor
SR3	7,420+00	7,430+00	3101	BLUEPOINT-BESHERM COMPLEX, 2 TO 15 PERCENT SLOPES	Besherm	H3	11	to 60	CH	--	--	100 - 100	100 - 100	90 - 100	80 - 90	45 - 60	20 - 25	0 - 1	7.9 - 9.0	4 - 16	6.0 - 8.9	--	--	--	Low	High	High	--	Somewhat limited	Poor	Poor
SR3	7,420+00	7,430+00	3101	Gabbvally-Vindicator-Rock outcrop association	Gabbvally	H1	0	to 2	GM	--	10	50 - 60	35 - 45	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	11	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR3	7,420+00	7,430+00	3101	Gabbvally-Vindicator-Rock outcrop association	Gabbvally	H2	2	to 11	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	11	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR3	7,420+00	7,430+00	3101	Gabbvally-Vindicator-Rock outcrop association	Gabbvally	H3	11	to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	11	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR3	7,420+00	7,430+00	3101	Gabbvally-Vindicator-Rock outcrop association	Vindicator	H1	0	to 3	GM	--	10	35 - 55	30 - 50	20 - 35	10 - 20	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	7,420+00	7,430+00	3101	Gabbvally-Vindicator-Rock outcrop association	Vindicator	H2	3	to 13	GC	--	10	45 - 60	35 - 50	30 - 40	20 - 35	25 - 40	10 - 20	4 - 14	7.4 - 8.4	0 - 2	3.0 - 5.9	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	7,420+00	7,430+00	3101	Gabbvally-Vindicator-Rock outcrop association	Vindicator	H3	13	to 17		-	-	-	-	-	-	-	-	0 -	-	-	-	--	11	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	7,430+00	7,493+00	3831	Downeyville-Stewval association	Downeyville	H1	0	to 5	SC-SM	5 - 10	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	7,430+00	7,493+00	3831	Downeyville-Stewval association	Downeyville	H2	5	to 13	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	7,430+00	7,493+00	3831	Downeyville-Stewval association	Downeyville	H3	13	to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	7,430+00	7,493+00	3831	Downeyville-Stewval association	Stewval	H1	0	to 1	GC	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	7,430+00	7,493+00	3831	Downeyville-Stewval association	Stewval	H2	1	to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	7,430+00	7,493+00	3831	Downeyville-Stewval association	Stewval	H3	7	to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Unsel	H1	0	to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Unsel	H3	11	to 34	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Hollywell	H1	0	to 4	SM	--	10	60 - 85	55 - 75	30 - 50	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Hollywell	H2	4	to 12	SM	--	10	65 - 95	60 - 90	35 - 65	20 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Lyx	H1	0	to 3	GM	--	5	55 - 85	50 - 75	25 - 55	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Lyx	H2	3	to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Hollywell	H3	12	to 60	GM	--	25	30 - 60	25 - 50	10 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,493+00	7,511+00	3134	Unsel-Hollywell-Lyx association	Lyx	H3	11	to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,511+00	7,543+00	3831	Downeyville-Stewval association	Downeyville	H1	0	to 5	SC-SM	5 - 10	30 - 50	70 - 85	45 - 65	35 - 50	15 - 35	15 - 25	0 - 10	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	7,511+00	7,543+00	3831	Downeyville-Stewval association	Downeyville	H2	5	to 13	GC	5	10 - 25	40 - 60	30 - 50	25 - 50	20 - 40	25 - 35	10 - 15	4 - 14	7.9 - 9.0	0 - 2	0.0 - 2.9	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	7,511+00	7,543+00	3831	Downeyville-Stewval association	Downeyville	H3	13	to 17		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	7,511+00	7,543+00	3831	Downeyville-Stewval association	Stewval	H1	0	to 1	GC	--	10	35 - 55	30 - 45	20 - 35	10 - 20	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	7,511+00	7,543+00	3831	Downeyville-Stewval association	Stewval	H2	1	to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	7,511+00	7,543+00	3831	Downeyville-Stewval association	Stewval	H3	7	to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	7	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Unsel	H1	0	to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Unsel	H3	11	to 34	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Hollywell	H1	0	to 4	SM	--	10	60 - 85	55 - 75	30 - 50	10 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Hollywell	H2	4	to 12	SM	--	10	65 - 95	60 - 90	35 - 65	20 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Lyx	H1	0	to 3	GM	--	5	55 - 85	50 - 75	25 - 55	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Lyx	H2	3	to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Hollywell	H3	12	to 60	GM	--	25	30 - 60	25 - 50	10 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,543+00	7,603+00	3134	Unsel-Hollywell-Lyx association	Lyx	H3	11	to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	7,603+00	7,612+00	3700	Leo-Delamar association	Leo	H1	0	to 8	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,603+00	7,612+00	3700	Leo-Delamar association	Delamar	H1	0	to 4	SM	--	--	95 - 100	85 - 100	45 - 80	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,603+00	7,612+00	3700	Leo-Delamar association	Delamar	H2	4	to 12	CL	--	5	65 - 100	60 - 90	50 - 80	30 - 55	30 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,603+00	7,612+00	3700	Leo-Delamar association	Delamar	H3	12	to 20	GC	--	5	60 - 90	55 - 85	40 - 55	30 - 50	35 - 45	15 - 25	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,603+00	7,612+00	3700	Leo-Delamar association	Delamar	H4	20	to 25	SM	--	--	60 - 80	50 - 75	30 - 50	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,603+00	7,612+00	3700	Leo-Delamar association	Delamar	H5	25	to 29		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,603+00	7,612+00	3700	Leo-Delamar association	Leo	H2	8	to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,610+00	7,710+00	3750	Koyen-Cliffdown association	Koyen	H1	0	to 4	SM	--	--	90 - 95	85 - 95	50 - 75	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,610+00	7,710+00	3750	Koyen-Cliffdown association	Koyen	H3	35	to 60	GP-GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,610+00	7,710+00	3750	Koyen-Cliffdown association	Cliffdown	H1	0	to 3	SM	--	5	70 - 80	65 - 75	40 - 50	20 - 30	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,610+00	7,710+00	3750	Koyen-Cliffdown association	Cliffdown	H2	3	to 60	GM	--	5	45 - 55	40 - 50	30 - 40	15 - 30	14	--	14 - 42	7.9 - 9.0	0 - 8	0.0 - 2.9	--	--	--	Low	High	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,610+00	7,710+00	3750	Koyen-Cliffdown association	Koyen	H2	4	to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,710+00	7,730+00	3700	Leo-Delamar association	Leo	H1	0	to 8	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,710+00	7,730+00	3700	Leo-Delamar association	Delamar	H1	0	to 4	SM	--	--	95 - 100	85 - 100	45 - 80	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,710+00	7,730+00	3700	Leo-Delamar association	Delamar	H2	4	to 12	CL	--	5	65 - 100	60 - 90	50 - 80	30 - 55	30 - 40	10 - 20	1 - 4	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,710+00	7,730+00	3700	Leo-Delamar association	Delamar	H3	12	to 20	GC	--	5	60 - 90	55 - 85	40 - 55	30 - 50	35 - 45	15 - 25	1 - 4	7.9 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,710+00	7,730+00	3700	Leo-Delamar association	Delamar	H4	20	to 25	SM	--	--	60 - 80	50 - 75	30 - 50	10 - 50	14	--	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,710+00	7,730+00	3700	Leo-Delamar association	Delamar	H5	25	to 29		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	7,710+00	7,730+00	3700	Leo-Delamar association	Leo	H2	8	to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	7,730+00	7,825+00	3740	Keefa-Unsel association	Keefa	H1	0	to 7	SM	--	--	90 - 100	80 - 100	60 - 75	25 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	7,730+00	7,825+00	3740	Keefa-Unsel association	Keefa	H2	7	to 15	SM	--	--	85 - 100	65 - 100	40 - 75	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	7,730+00	7,825+00	3740	Keefa-Unsel association	Keefa	H3	15	to 26	SM	--	--	75 - 90	50 - 75	30 - 55	15 - 25	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	7,730+00	7,825+00	3740	Keefa-Unsel association	Unsel	H1	0	to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
										>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
	From	To								Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	Inches	Inches								
SR3	7,730+00	7,825+00	3740	Keefa-Unsel association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	7,730+00	7,825+00	3740	Keefa-Unsel association	Unsel	H3	11	to 34	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	7,730+00	7,825+00	3740	Keefa-Unsel association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	7,730+00	7,825+00	3740	Keefa-Unsel association	Keefa	H4	26	to 60	SM	--	--	60 - 90	50 - 75	30 - 55	10 - 15	15 - 25	0 - 5	14 - 42	8.4 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	7,825+00	8,089+00	3137	Unsel-Koyen association	Unsel	H1	0	to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	7,825+00	8,089+00	3137	Unsel-Koyen association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	7,825+00	8,089+00	3137	Unsel-Koyen association	Unsel	H3	11	to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	7,825+00	8,089+00	3137	Unsel-Koyen association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	7,825+00	8,089+00	3137	Unsel-Koyen association	Koyen	H1	0	to 4	SM	--	--	65 - 90	50 - 75	40 - 65	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	7,825+00	8,089+00	3137	Unsel-Koyen association	Koyen	H3	35	to 60	GW-GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	7,825+00	8,089+00	3137	Unsel-Koyen association	Koyen	H2	4	to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,089+00	8,210+00	3137	Unsel-Koyen association	Unsel	H1	0	to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	8,089+00	8,210+00	3137	Unsel-Koyen association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	8,089+00	8,210+00	3137	Unsel-Koyen association	Unsel	H3	11	to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	8,089+00	8,210+00	3137	Unsel-Koyen association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	8,089+00	8,210+00	3137	Unsel-Koyen association	Koyen	H1	0	to 4	SM	--	--	65 - 90	50 - 75	40 - 65	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,089+00	8,210+00	3137	Unsel-Koyen association	Koyen	H3	35	to 60	GW-GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,089+00	8,210+00	3137	Unsel-Koyen association	Koyen	H2	4	to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Belted	H1	0	to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Belted	H2	4	to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Belted	H3	11	to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Belted	H4	17	to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0	to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11	to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0	to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3	to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,210+00	8,263+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11	to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H1	0	to 1	GM	5 - 25	20 - 30	50 - 70	45 - 65	40 - 60	25 - 35	-	--	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H2	1	to 4	ML	--	--	90 - 100	90 - 100	80 - 90	50 - 60	20 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H3	4	to 11	CL	--	5	80 - 95	75 - 90	60 - 75	55 - 70	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H4	11	to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H5	15	to 19		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H1	0	to 1	GC	5 - 15	15 - 25	45 - 60	40 - 55	30 - 45	10 - 25	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H2	1	to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H3	7	to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H1	0	to 2	GM	5 - 25	5 - 10	60 - 75	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H2	2	to 11	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR3	8,263+00	8,330+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H3	11	to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Belted	H1	0	to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Belted	H2	4	to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Belted	H3	11	to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Belted	H4	17	to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0	to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11	to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0	to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3	to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,330+00	8,347+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11	to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H1	0	to 1	GM	5 - 25	20 - 30	50 - 70	45 - 65	40 - 60	25 - 35	-	--	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H2	1	to 4	ML	--	--	90 - 100	90 - 100	80 - 90	50 - 60	20 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H3	4	to 11	CL	--	5	80 - 95	75 - 90	60 - 75	55 - 70	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H4	11	to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Argalt	H5	15	to 19		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	High	--	Very limited	Poor	Poor
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H1	0	to 1	GC	5 - 15	15 - 25	45 - 60	40 - 55	30 - 45	10 - 25	20 - 25	5 - 10	14 - 42	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H2	1	to 7	GC	10	25	20 - 55	15 - 45	10 - 35	10 - 30	30 - 40	10 - 20	4 - 14	7.4 - 8.4	--	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Stewval	H3	7	to 11		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Fair-Poor	Fair
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H1	0	to 2	GM	5 - 25	5 - 10	60 - 75	55 - 70	45 - 55	35 - 50	20 - 25	0 - 5	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H2	2	to 11	GC	5	15	50 - 60	35 - 50	25 - 35	15 - 25	25 - 35	5 - 15	4 - 14	6.6 - 7.8	0 - 2	0.0 - 2.9	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR3	8,347+00	8,362+00	3620	Argalt-Stewval-Gabbvally association	Gabbvally	H3	11	to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	9	--	Moderate	Low	Moderate	--	Very limited	Poor	Poor
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Belted	H1	0	to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Belted	H2	4	to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Belted	H3	11	to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Belted	H4	17	to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0	to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches	USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To							>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
									Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	Inches	Inches								
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,362+00	8,450+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H1	0 to 2	GM	5	30 - 45	55 - 75	45 - 70	30 - 45	20 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 4	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H2	2 to 5	GC	5	10 - 25	50 - 60	40 - 55	30 - 45	20 - 40	30 - 40	10 - 15	1 - 4	7.9 - 9.0	0 - 4	3.0 - 5.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H3	5 to 9	GC-GM	5	15 - 40	30 - 50	20 - 40	10 - 30	5 - 25	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H4	9 to 15		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Tokoper	H5	15 to 19		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H1	0 to 1	GM	--	10	35 - 60	25 - 50	15 - 35	5 - 15	20 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H2	1 to 6	SM	--	5	80 - 90	75 - 90	55 - 80	20 - 40	20 - 25	0 - 5	4 - 14	7.9 - 8.4	0 - 2	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H3	6 to 10	ML	--	5	70 - 85	50 - 75	40 - 60	30 - 55	25 - 35	5 - 10	4 - 14	7.9 - 9.0	0 - 8	0.0 - 2.9	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H4	10 to 21		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,450+00	8,458+00	3610	Tokoper-Garhill-Rock outcrop association	Garhill	H5	21 to 25		-	-	-	-	-	-	-	-	0.01	-	-	-	--	15	--	Low	Low	High	--	Very limited	Poor	Poor
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Belted	H1	0 to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Belted	H2	4 to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Belted	H3	11 to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Belted	H4	17 to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0 to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,458+00	8,510+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,510+00	8,523+00	3460	Zadvar-Handpah association	Zadvar	H1	0 to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,510+00	8,523+00	3460	Zadvar-Handpah association	Zadvar	H2	3 to 10	SC	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,510+00	8,523+00	3460	Zadvar-Handpah association	Zadvar	H3	10 to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,510+00	8,523+00	3460	Zadvar-Handpah association	Handpah	H1	0 to 3	GM	--	10	60 - 85	50 - 75	40 - 65	25 - 35	15 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,510+00	8,523+00	3460	Zadvar-Handpah association	Handpah	H2	3 to 14	GC	--	10	60 - 85	60 - 75	50 - 60	40 - 50	35 - 40	15 - 20	0 - 1	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,510+00	8,523+00	3460	Zadvar-Handpah association	Handpah	H3	14 to 18	GM	5	10 - 25	40 - 55	25 - 45	20 - 30	5 - 15	-	--	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,510+00	8,523+00	3460	Zadvar-Handpah association	Handpah	H4	18 to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,510+00	8,523+00	3460	Zadvar-Handpah association	Handpah	H5	24 to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,510+00	8,523+00	3460	Zadvar-Handpah association	Zadvar	H4	14 to 60	GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Belted	H1	0 to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Belted	H2	4 to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Belted	H3	11 to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Belted	H4	17 to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0 to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,523+00	8,600+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Belted	H1	0 to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Belted	H2	4 to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Belted	H3	11 to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Belted	H4	17 to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0 to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4 to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11 to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34 to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0 to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3 to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,600+00	8,751+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11 to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,751+00	8,790+00	3741	Keefa-Koyen association	Keefa	H1	0 to 7	SM	--	--	90 - 100	80 - 100	60 - 75	25 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,751+00	8,790+00	3741	Keefa-Koyen association	Keefa	H2	7 to 15	SM	--	--	85 - 100	65 - 100	40 - 75	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,751+00	8,790+00	3741	Keefa-Koyen association	Keefa	H3	15 to 26	SM	--	--	75 - 90	50 - 75	30 - 55	15 - 25	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,751+00	8,790+00	3741	Keefa-Koyen association	Koyen	H1	0 to 4	SM	--	--	90 - 95	85 - 95	50 - 75	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,751+00	8,790+00	3741	Keefa-Koyen association	Koyen	H3	35 to 60	SW-SM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,751+00	8,790+00	3741	Keefa-Koyen association	Keefa	H4	26 to 60	SM	--	--	60 - 90	50 - 75	30 - 55	10 - 15	15 - 25	0 - 5	14 - 42	8.4 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,751+00	8,790+00	3741	Keefa-Koyen association	Koyen	H2	4 to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	8,790+00	9,050+00	3460	Zadvar-Handpah association	Zadvar	H1	0 to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,790+00	9,050+00	3460	Zadvar-Handpah association	Zadvar	H2	3 to 10	SC	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
										>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
	From	To								Percent Retained		Percent Passing				Percent	Percent	µM/sec	pH	µmhos/cm	Percent	inches	inches								
SR3	8,790+00	9,050+00	3460	Zadvar-Handpah association	Zadvar	H3	10	to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	8,790+00	9,050+00	3460	Zadvar-Handpah association	Handpah	H1	0	to 3	GM	--	10	60 - 85	50 - 75	40 - 65	25 - 35	15 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,790+00	9,050+00	3460	Zadvar-Handpah association	Handpah	H2	3	to 14	GC	--	10	60 - 85	60 - 75	50 - 60	40 - 50	35 - 40	15 - 20	0 - 1	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,790+00	9,050+00	3460	Zadvar-Handpah association	Handpah	H3	14	to 18	GM	5	10 - 25	40 - 55	25 - 45	20 - 30	5 - 15	-	--	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,790+00	9,050+00	3460	Zadvar-Handpah association	Handpah	H4	18	to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,790+00	9,050+00	3460	Zadvar-Handpah association	Handpah	H5	24	to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	8,790+00	9,050+00	3460	Zadvar-Handpah association	Zadvar	H4	14	to 60	GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Belted	H1	0	to 4	GC	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Belted	H2	4	to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Belted	H3	11	to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Belted	H4	17	to 60	GW	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.0	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Unsel	H1	0	to 4	SC-SM	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.6	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Unsel	H3	11	to 34	SC	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Lyx	H1	0	to 3	SM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Lyx	H2	3	to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,050+00	9,152+00	3811	Belted-Unsel-Lyx association	Lyx	H3	11	to 60	GW-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Belted	H1	0	to 4	GC-GM	2	10	35 - 65	30 - 50	20 - 45	15 - 35	25 - 30	5 - 10	4 - 14	7.9 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Belted	H2	4	to 11	SC	2	10	70 - 85	55 - 75	45 - 60	35 - 50	30 - 35	10 - 15	1 - 4	7.9 - 9.6	4 - 16	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Belted	H3	11	to 17		-	-	-	-	-	-	-	-	0 - 1	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Belted	H4	17	to 60	GP	5	10	30 - 50	20 - 35	5 - 15	5	-	--	42 - 141	7.9 - 9.6	2 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Univega	H1	0	to 5	SM	--	10	60 - 85	50 - 80	40 - 70	10 - 20	14	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Univega	H2	5	to 10	SM	--	5	90 - 100	75 - 100	60 - 80	35 - 50	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Univega	H3	10	to 31		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Univega	H4	31	to 60	SM	--	5	60 - 85	50 - 75	20 - 40	5 - 20	14	--	141 - 705	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Koyen	H1	0	to 4	SM	--	--	65 - 90	50 - 75	40 - 65	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Koyen	H3	35	to 60	GM	--	--	50 - 60	45 - 55	25 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,152+00	9,176+00	3810	Belted-Univega-Koyen association	Koyen	H2	4	to 35	SM	--	--	80 - 90	75 - 85	50 - 60	25 - 40	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,176+00	9,228+00	3740	Keefa-Unsel association	Keefa	H1	0	to 7	SM	--	--	90 - 100	80 - 100	60 - 75	25 - 30	15 - 25	0 - 5	14 - 42	7.9 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	9,176+00	9,228+00	3740	Keefa-Unsel association	Keefa	H2	7	to 15	SM	--	--	85 - 100	65 - 100	40 - 75	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	9,176+00	9,228+00	3740	Keefa-Unsel association	Keefa	H3	15	to 26	SM	--	--	75 - 90	50 - 75	30 - 55	15 - 25	15 - 25	0 - 5	4 - 14	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	9,176+00	9,228+00	3740	Keefa-Unsel association	Unsel	H1	0	to 4	SC	--	--	75 - 85	55 - 75	40 - 60	25 - 35	25 - 30	5 - 10	14 - 42	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	9,176+00	9,228+00	3740	Keefa-Unsel association	Unsel	H2	4	to 11	SC	--	--	75 - 85	55 - 75	45 - 60	35 - 45	35 - 40	15 - 20	1 - 4	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	9,176+00	9,228+00	3740	Keefa-Unsel association	Unsel	H3	11	to 34	SC-SM	--	--	60 - 75	50 - 70	35 - 50	20 - 35	20 - 30	5 - 10	4 - 14	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	9,176+00	9,228+00	3740	Keefa-Unsel association	Unsel	H4	34	to 60	GP-GM	--	--	30 - 50	20 - 35	10 - 25	10	-	--	42 - 141	8.5 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Fair	Fair
SR3	9,176+00	9,228+00	3740	Keefa-Unsel association	Keefa	H4	26	to 60	SM	--	--	60 - 90	50 - 75	30 - 55	10 - 15	15 - 25	0 - 5	14 - 42	8.4 - 9.0	4 - 8	0.0 - 2.9	--	--	--	Low	Low	High	--	Not limited	Poor-Fair	Poor
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Lyda	H1	0	to 5	GM	--	5 - 20	35 - 60	30 - 55	25 - 45	10 - 25	15 - 25	0 - 5	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Lyda	H2	5	to 14	GC	--	10 - 25	50 - 60	45 - 55	30 - 45	20 - 35	35 - 40	15 - 20	0 - 1	8.5 - 9.6	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Lyda	H3	14	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Lyda	H4	20	to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Ardivey	H1	0	to 8	GC	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Ardivey	H2	8	to 17	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Ardivey	H3	17	to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Veet	H1	0	to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Veet	H2	4	to 12	GC	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,228+00	9,290+00	3803	Lyda-Ardivey-Veet association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,290+00	9,305+00	3410	Watoopah-Veet association	Watoopah	H1	0	to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,290+00	9,305+00	3410	Watoopah-Veet association	Watoopah	H2	2	to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,290+00	9,305+00	3410	Watoopah-Veet association	Watoopah	H3	12	to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,290+00	9,305+00	3410	Watoopah-Veet association	Veet	H1	0	to 4	SM	5 - 15	5 - 15	60 - 70	35 - 55	25 - 50	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,290+00	9,305+00	3410	Watoopah-Veet association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,290+00	9,305+00	3410	Watoopah-Veet association	Veet	H3	12	to 60	GP-GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,290+00	9,305+00	3410	Watoopah-Veet association	Watoopah	H4	18	to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Lyda	H1	0	to 5	GM	--	5 - 20	35 - 60	30 - 55	25 - 45	10 - 25	15 - 25	0 - 5	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Lyda	H2	5	to 14	GC	--	10 - 25	50 - 60	45 - 55	30 - 45	20 - 35	35 - 40	15 - 20	0 - 1	8.5 - 9.6	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Lyda	H3	14	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Lyda	H4	20	to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Ardivey	H1	0	to 8	GC	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Ardivey	H2	8	to 17	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Ardivey	H3	17	to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Veet	H1	0	to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Veet	H2	4	to 12	GC	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,305+00	9,535+00	3803	Lyda-Ardivey-Veet association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,535+00	9,622+00	3460	Zadvar-Handpah association	Zadvar	H1	0	to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,535+00	9,622+00	3460	Zadvar-Handpah association	Zadvar	H2	3	to 10	SC	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,535+00	9,622+00	3460	Zadvar-Handpah association	Zadvar	H3	10	to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair

TABLE 4
SOIL SURVEY DATA BY STATION INTERVAL

Alignment Segment	Station		Map Unit	Map Unit Name	Component Name	Horizon	Depth, inches		USCS Symbol	Engineering Index Properties								Physical and Chemical Properties				Soil Rock and Water Features				Risk of Corrosion		Site Development		Material Source	
	From	To								>10 inches	3 to10 inches	#4 Sieve	#10 Sieve	#40 Sieve	#200 Sieve	Liquid Limit	Plasticity Index	Saturated Hydraulic Conductivity	Reaction	Salinity (electrical conductivity)	Linear Extensibility (shrink-swell)	Depth to Water Table	Depth to Bedrock	Bedrock Hardness	Frost Action	Concrete	Uncoated Steel	Excavation Difficulty	Local Roads and Streets	Sand	Gravel
										Percent Retained		Percent Passing				Percent	Percent	µ M/sec	pH	µ mhos/cm	Percent	inches	inches								
SR3	9,535+00	9,622+00	3460	Zadvar-Handpah association	Handpah	H1	0	to 3	GM	--	10	60 - 85	50 - 75	40 - 65	25 - 35	15 - 25	0 - 5	4 - 14	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,535+00	9,622+00	3460	Zadvar-Handpah association	Handpah	H2	3	to 14	GC	--	10	60 - 85	60 - 75	50 - 60	40 - 50	35 - 40	15 - 20	0 - 1	7.4 - 9.0	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,535+00	9,622+00	3460	Zadvar-Handpah association	Handpah	H3	14	to 18	GM	5	10 - 25	40 - 55	25 - 45	20 - 30	5 - 15	-	--	14 - 42	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,535+00	9,622+00	3460	Zadvar-Handpah association	Handpah	H4	18	to 24		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,535+00	9,622+00	3460	Zadvar-Handpah association	Handpah	H5	24	to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,535+00	9,622+00	3460	Zadvar-Handpah association	Zadvar	H4	14	to 60	GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Lyda	H1	0	to 5	GM	--	5 - 20	35 - 60	30 - 55	25 - 45	10 - 25	15 - 25	0 - 5	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Lyda	H2	5	to 14	GC	--	10 - 25	50 - 60	45 - 55	30 - 45	20 - 35	35 - 40	15 - 20	0 - 1	8.5 - 9.6	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Lyda	H3	14	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Lyda	H4	20	to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Ardivey	H1	0	to 8	GC	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Ardivey	H2	8	to 17	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Ardivey	H3	17	to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Veet	H1	0	to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Veet	H2	4	to 12	GC	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,622+00	9,650+00	3803	Lyda-Ardivey-Veet association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,650+00	9,656+00	3415	Watoopah-Leo association	Watoopah	H1	0	to 2	SM	--	--	70 - 100	55 - 75	35 - 60	10 - 30	-	--	42 - 141	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,650+00	9,656+00	3415	Watoopah-Leo association	Watoopah	H2	2	to 12	SM	--	--	70 - 100	60 - 100	40 - 80	20 - 50	15 - 25	0 - 5	14 - 42	6.6 - 7.8	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,650+00	9,656+00	3415	Watoopah-Leo association	Watoopah	H3	12	to 18	SM	--	5	60 - 100	50 - 95	30 - 70	20 - 50	-	--	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,650+00	9,656+00	3415	Watoopah-Leo association	Leo	H1	0	to 8	SM	--	--	65 - 85	50 - 75	40 - 60	20 - 35	15 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,650+00	9,656+00	3415	Watoopah-Leo association	Leo	H2	8	to 60	GM	5	25	45 - 60	40 - 50	15 - 35	5 - 20	-	--	42 - 141	7.9 - 9.0	0 - 4	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,650+00	9,656+00	3415	Watoopah-Leo association	Watoopah	H4	18	to 60	SM	--	5	60 - 85	50 - 75	30 - 50	5 - 25	-	--	42 - 141	7.4 - 8.4	0 - 4	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Lyda	H1	0	to 5	GM	--	5 - 20	35 - 60	30 - 55	25 - 45	10 - 25	15 - 25	0 - 5	14 - 42	8.5 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Lyda	H2	5	to 14	GC	--	10 - 25	50 - 60	45 - 55	30 - 45	20 - 35	35 - 40	15 - 20	0 - 1	8.5 - 9.6	0 - 2	3.0 - 5.9	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Lyda	H3	14	to 20		-	-	-	-	-	-	-	-	0.01	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Lyda	H4	20	to 60		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Low	Low	High	--	Somewhat limited	Poor	Poor
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Ardivey	H1	0	to 8	GC-GM	--	15	30 - 55	25 - 50	15 - 30	10 - 20	20 - 25	5 - 10	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Ardivey	H2	8	to 17	GC	5	10 - 25	40 - 55	30 - 45	20 - 40	15 - 30	25 - 40	10 - 20	1 - 4	6.6 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Ardivey	H3	17	to 60	GW	10	10 - 45	15 - 35	10 - 30	5 - 20	10	-	--	42 - 141	7.9 - 9.6	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Lyx	H1	0	to 3	GM	--	10	35 - 60	30 - 50	15 - 30	15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Lyx	H2	3	to 11	GM	--	10	45 - 70	40 - 60	25 - 50	5 - 20	20 - 25	0 - 5	14 - 42	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,656+00	9,768+00	3804	Lyda-Ardivey-Lyx association	Lyx	H3	11	to 60	GP-GM	--	10	30 - 60	25 - 50	10 - 25	5 - 10	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Low	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,768+00	9,800+00	3463	Zadvar-Veet association	Zadvar	H1	0	to 3	GM	--	10	45 - 60	35 - 50	25 - 40	15 - 25	20 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,768+00	9,800+00	3463	Zadvar-Veet association	Zadvar	H2	3	to 10	SC	--	5	60 - 90	55 - 85	45 - 75	35 - 60	35 - 40	15 - 20	1 - 4	7.4 - 8.4	0 - 2	3.0 - 5.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,768+00	9,800+00	3463	Zadvar-Veet association	Zadvar	H3	10	to 14		-	-	-	-	-	-	-	-	0 -	-	-	-	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair
SR3	9,768+00	9,800+00	3463	Zadvar-Veet association	Veet	H1	0	to 4	SM	--	10	60 - 75	30 - 50	20 - 45	15 - 25	15 - 25	0 - 5	14 - 42	7.4 - 8.4	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,768+00	9,800+00	3463	Zadvar-Veet association	Veet	H2	4	to 12	GC-GM	--	10 - 25	40 - 60	35 - 55	25 - 50	15 - 25	20 - 25	5 - 10	4 - 14	7.4 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,768+00	9,800+00	3463	Zadvar-Veet association	Veet	H3	12	to 60	GM	--	10 - 25	45 - 55	30 - 50	15 - 30	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Poor-Fair	Poor
SR3	9,768+00	9,800+00	3463	Zadvar-Veet association	Zadvar	H4	14	to 60	GP-GM	5	15	35 - 55	25 - 50	15 - 35	5 - 15	-	--	42 - 141	7.9 - 9.0	0 - 2	0.0 - 2.9	--	--	--	Moderate	Low	High	--	Somewhat limited	Fair	Fair

TABLE 5
SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS
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Alignment Segment Symbol	Alignment Segment Name	Geomorphic Segment	Page
BC2	Bonnie Claire 2	S48	42
		S49	43
		S50	43
BC3	Bonnie Claire 3	S38	22
		S47	23
Caliente	Caliente	S1	1
		S2	2
CS1	Common Segment 1	S6	3
		S7	3
		S8	4
		S9	4
		S10	5
		S11	6
		S12	7
		S13	7
		S14	8
		S15	9
		S16	10
CS2	Common Segment 2	S20	11
		S21	12
CS3	Common Segment 3	S29	16
		S30	17
		S31	17
		S32	18
		S33	18
CS4	Common Segment 4	S38	22
CS5	Common Segment 5	S47	23
		S51	24
CS6	Common Segment 6	S53	25
		S56	26
		S57	27
		S58	28
		S59	29
		S60	30
		S61	31
		S62	32

Alignment Segment Symbol	Alignment Segment Name	Geomorphic Segment	Page
Eccles	Eccles	S3	33
		S4	34
		S5	34
GF1	Goldfield 1	S33	18
		S34	19
		S35	20
		S36	20
		S37	21
		S38	22
GF3	Goldfield 3	S33	18
		S39	46
		S40	47
		S41	48
GF4	Goldfield 4	S42	38
		S43	39
		S44	40
		S45	41
		S46	42
GV1	Garden Valley 1	S16	10
GV2	Garden Valley 2	S18	35
		S19	35
GV3	Garden Valley 3	S17	36
OV1	Oasis Valley 1	S51	24
		S52	24
OV3	Oasis Valley 3	S54	44
		S55	45
SR2	South Reveille 2	S24	37
SR3	South Reveille 3	S22	13
		S23	13
		S25	14
		S26	14
		S27	15
		S28	15
		S29	16

TABLE 5
SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
Caliente	S1	1000+00	1140+00	3	Tschanz and Pampeyan, 1970; Rowley and Shroba, 1991; Rowley et al, 1994	Caliente to Meadow Valley. For its entire length, this segment is on the narrow floodplain of Meadow Valley Wash, which is bordered on both sides by cliffs of volcanic rock. The alignment follows the abandoned UPRR grade.	Because access was restricted by private property, no material descriptions were done in this segment. Descriptions are based on observations from US-93 and from published maps. For nearly its entire length, the alignment is on floodplain alluvium of Meadow Valley Wash, except for a small outcrop of Tertiary Fan Alluvium (Tf) at the north end of the segment. The wash is bordered on both sides by early Miocene lava flows, breccia, intrusive plugs and dikes (Ta3), and ash-flow tuff (Tt3). On its west side, near Caliente, the wash, also, is bordered by the Cambrian Highland Peak Formation (Chp) and other Cambrian sedimentary rocks. The volcanic rocks strike NNW and dip 8-36^0 E in the northern part of the segment, but they strike WNW to ENE and dip 24-44^0 S near Caliente. Northwest striking faults that offset the volcanic rocks cross Meadow Valley Wash and can be expected to be encountered in excavations of floodplain alluvium.	Quaternary floodplain alluvium (Qc): SILT and thin (less than 8 inch thick) beds and lenses of SILTY SAND: weakly consolidated and prone to gully development; soils commonly have a calcareous, clayey horizon that is ~1.5 ft thick; Tertiary Fan Alluvium (Tf): At Cobalt Canyon, moderate to high strength SANDSTONE and CONGLOMERATE with subordinate SILTSTONE and ASH-FLOW TUFF. Locally contains clasts up to 6 feet in diameter.	Not applicable	2277, 2280, SM208: old UPRR bridge and Qc; 2278-2279, SM208: pan SE of former UPRR track location; 2281, SM208: south pier of US-93 bridge; 2282-2283, SM209: pan N of US-93 bridge & Ta3/Tt3 cliffs; 2284-2285, SM209: old UPRR bridge and Ta3 outcrop; 2286, 2289-2290, SM210: old UPRR bridge & Ta3 cliffs; 2287, SM210: US-93 bridge: 2288, SM210: Meadow V. Wash floodplain alluvium & Ta3 cliffs; 2291-2293, SM211: pan SW to S of cuts in Ta3 for old UPRR grade; 2294-2295, SM211: US-93 bridge; 2296-2298, SM211: Meadow Valley Wash floodplain & UPRR grade bordered by Ta3 cliffs.

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Caliente	S2	1140+00	1581+48	2 – 3	Tschanz and Pampeyan, 1970; Rowley and Shroba, 1991; Rowley et al, 1994	Meadow Valley. Along this entire segment, the alignment follows or parallels the abandoned UPRR grade. Except for cuts in volcanic rocks at the beginning of the segment and at Indian Cove, the alignment crosses the broad floodplain of Meadow Valley Wash.	The segment starts on a small outcrop of Tertiary Fan Alluvium (Tf). A majority of the segment is on Quaternary (Holocene and latest Pleistocene?) floodplain alluvium (Qc). West of Indian Cove, the alignment is in a narrow canyon bordered by cliffs of Early Miocene lava flows of intermediate composition (Ta3), which locally are assigned to the Lava flows of Indian Cove. This thick formation consists of gray, purplish-gray, greenish-gray, tan, dark-brown, reddish-brown, and red andesite to dacite lava flows, subordinate flow breccia and volcanic mudflow breccia, and minor sandy conglomerate and conglomeratic sandstone. Foliation and bedding strike N 2-38^0 W and dip 18-34^0 NE. The volcanic rocks are cut by numerous NW trending faults of the Chief Canyon Fault zone. These faults dip to the NE or SE at angles known to range from 58 to 84 degrees, exhibit either down-to-the-NE or down-to-the-SE vertical displacement, and commonly show right-lateral movement in addition to vertical displacement. The Chief Canyon Fault zone crosses Meadow Valley Wash and can be expected to be encountered in excavations of floodplain alluvium.	Quaternary floodplain alluvium (Qc): appears to vary depending on proximity to exposures of Tertiary lakebeds. At SM196, alluvium exposed in the banks of a wash is hard, reddish-brown CLAY (CH); at SM195, 2 ft of dense, reddish-brown CLAYEY SAND (SC) overlies 1.5 ft of medium-dense to loose, light-brown, fine-grained SAND (SP). Early Miocene Lava flows of Indian Cove (Ta3): although this formation has variable lithology, cliffs on both sides of the alignment where it crosses Meadow Valley Wash uniformly appear to be VOLCANIC MUDFLOW BRECCIA, which, where examined at SM211, consists of cobbles and small to la boulders (to 4-ft diameter) of diverse igneous rock types (ranging from diorite or gabbro to rhyolitic ash-flow tuff) in a fine-grained, grungy matrix. Because of the abundance of boulders and their strength, the rock mass, as a whole, is considered to have very high strength; Tertiary Fan Alluvium (Tf): At Cobalt Canyon, moderate to high strength SANDSTONE and CONGLOMERATE with subordinate SILTSTONE and ASH-FLOW TUFF. Locally contains clasts up to 6 feet in diameter.	No data	2204-2206, SM195: Meadow Valley Wash floodplain alluvium; 2207-2208, SM196: views N & S of abandoned UPRR grade; 2209, SM196: floodplain alluvium; 2218-2219, SM199: views S & N of abandoned UPRR grade; 2220, SM199: old borrow pit in fan gravel; 2221-2224, SM199: US-93 cut slopes in lakebeds and fan gravel; 2291-2293, SM211: pan SW to S of cuts in Ta3 for abandoned UPRR grade; 2294-2295, SM211: US-93 bridge over Meadow Valley Wash; 2296-2298, SM211: Meadow Valley Wash floodplain & UPRR grade bordered by Ta3 cliffs; 2299-2300, SM212: pan E to SE of Meadow Valley (wash obscured by foreground shrubs).

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Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
CS1	S6	1581+48	2040+00	2 and 4	Tschanz and Pampeyan, 1970; Ekren et al, 1977; Rowley and Shroba, 1991	Meadow Valley to Bennett Pass. The alignment ascends out of the Meadow Valley along the east side of the Chief Range over rugged hill and swale (badland) topography.	The alignment alternately is on old Quaternary (early to middle Pleistocene) fan alluvium (Qao) and Tertiary (Pliocene to Miocene) lakebeds (Tl). In the Meadow Valley area, the lakebeds are called the Panaca Formation.	Old Quaternary fan alluvium (Qao): as at SM182 and 184, mostly slightly silty, SANDY GRAVEL (GP): very dense, brown, abundant cobbles and scattered small boulders (to 2 ft diameter), clasts typically calcium carbonate-coated quartzite, limestone, and volcanic rocks, typically unconsolidated but locally weakly to strongly cemented with calcium carbonate, cemented gravel beds commonly form resistant ledges 1.5-10 ft thick, locally interbedded with gravelly, SILTY SAND (SP-SM): medium-dense, light-brown, fine-grained; Panaca Formation (Tl): as at SM189 and 191, generally poorly to moderately consolidated, tan, reddish-brown, salmon-pink, white, and light-gray, thin-bedded, moderate-strength CLAYSTONE (hard, CH, where poorly indurated) and low-strength SANDY SILTSTONE (dense, ML, where poorly indurated) with thin (commonly <1 ft thick) beds of medium-high-strength, fine to medium-grained SANDSTONE; close to medium-spaced fractures extending from sandstone into underlying and overlying fine-grained sediments; outcrops commonly capped with <20 ft of cobbly gravel.	No data	2144-2145, SM183: pan SW of Chief Range alluvial fan; 2150, SM184: cemented gravel in alluvial fan; 2151-2153, SM185: pan NE of Tl and Qao in Meadow Valley; 2161-2164, SM187A, 187B: Tl in Bennett Springs Wash; 2165-2174, SM188: pan N to S around curve in alignment; 2176, SM188: view NW of Tl; 2178-2180, SM189: Tl clay, silt, & sand; 2181-2184, SM190: pan N of Tl in Bennett Springs Wash; 2185-2190, SM191: pan S to W of Tl on alignment; 2192, SM191: resistant sandstone ledges in Tl outcrop; 2195, SM192: view NW of bluff from which alignment descends onto Meadow Valley Wash floodplain.
CS1	S7	2040+00	2120+00	4	Tschanz and Pampeyan, 1970	Bennett Pass. The alignment crosses between the Highland Range, to the north, and the Chief Range, to the south, at Bennett Pass.	This segment is almost entirely on the Cambrian Highland Peak Formation (Chp). The formation strikes N 85^0 E and dips 14^0 NW.	Cambrian Highland Peak Formation (Chp): The formation consists of alternating layers of limestone and dolomite, that are thinly to thickly bedded and variably textured. At SM181, the formation consists of LIMESTONE: very high strength, dark-gray, fine to medium-crystalline, calcite-veined, and locally brecciated, close to medium-spaced fractures, fresh to moderately weathered; overlain by DOLOMITE: very high strength, light-gray, medium to coarsely crystalline, closely spaced fractures.	Chp at SM181: Dominant joint set: N 56^0 E, 81^0 SE; secondary joint set: N 36^0 W, 82^0 SW; Chp at AG34: Dominant joint set: N49°W, 81°NE; secondary joint set: N8°E, 68°SE; Bedding: N23°W, 16°SW.	2131-2132, SM181: Horses by outcrops of Chp; 2137-2138, SM181: fracturing in Chp outcrops; 2133-2134, SM181: pan east from Bennett Pass; 2135-2136, SM181: pan west from Bennett Pass, Chp outcrops in foreground; MG100-105, AG34: Pan ESE to W from ridge south of Bennett Pass.

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CS1	S8	2120+00	2210+00	4 – 5	Tschanz and Pampeyan, 1970	Bennett Pass west. The alignment continues descending the west side of the Chief Range from Bennett Pass.	The alignment is on old Quaternary (early to middle Pleistocene) fan alluvium (Qao) for most of this segment. Near the beginning of the segment, the alignment crosses the Cambrian Highland Peak Formation (Chp) in the vicinity of a north-trending, high-angle, down-to-the-west fault. The fault brings the Highland Peak Formation on the west into contact with the Cambrian Pioche Shale (Cp) and the Lyndon Limestone and Chisholm Shale (Ccl) on the east. Excavations and outcrops indicate that the Highland Peak Formation is brecciated and veined with calcite in the fault zone.	Old Quaternary fan alluvium (Qao): at SM182, slightly silty, SANDY GRAVEL (GP): very dense, brown, abundant gravel to small boulder-sized clasts of mostly limestone; very dense, white CALCRETE layers within 1 foot of surface; Cambrian Highland Peak Formation (Chp): DOLOMITE: very high-strength, dark-gray, medium-crystalline, locally brecciated; and DOLOMITIC LIMESTONE: very high-strength, light gray, coarsely crystalline, minor brecciation; fracture spacing of Chp indeterminate because of poor outcrop but assumed from outcrops at nearby SM181 to be close to medium.	No data	2117-2119: pan NE from Highland Range (north) to Chief Range (south) at Bennett Pass; 2108-2109, SM178: wash where 50-ft-deep fill is indicated; 2110-2116, SM179: pan NW to N from Black Canyon Range to alluvial fan below Bennett Pass; 2120-2122, SM180: breccia excavated from pits near fault in Chp; 2123, 2127, SM180: Chp outcrops; 2128-2130, SM180: pan NE to E from Bennett Pass
CS1	S9	2210+00	2350+00	5	Tschanz and Pampeyan, 1970; Ekren et al, 1977; Sleeper, 1989	Western Chief Range to Black Canyon. The alignment descends the west side of the Chief Range and into Black Canyon.	This segment of the alignment at both ends is on old Quaternary (early to middle Pleistocene) fan alluvium. For most of the segment, the alignment traverses the early Miocene Condor Canyon Formation and the Harmony Hills and Hiko Tuffs (in unit Tt3). From east to west, the strike of these formations changes from NNW to NW and the dip increases from ~20^0 to ~30^0. Foliation at wpt SM177A strikes N 28^0 W and dips 33^0 NE. South of the alignment, the early Miocene tuffs are intercalated with, and overlain by mafic lava flows (unit Ta3). Across a NNE trending fault from the volcanic rocks, Cambrian formations, including the Highland Peak Formation (Chp), Nopah Formation (Cn), and House Limestone (Coh), are present.	Old Quaternary fan alluvium (Qao): at SM175, & 176, medium-dense to very dense, light-brown to reddish-brown, unconsolidated to well-indurated, SANDY GRAVEL (GP), GRAVELLY SAND (SP), and gravelly SILTY SAND (SP): carbonate and volcanic clasts, matrix calcium carbonate and CALCRETE layers, abundant cobbles and scattered to common boulders to 7 ft diameter in gravel intervals; Early Miocene Silicic to intermediate ash-flow tuffs & interbedded ash-fall tuffs (Tt3): at SM177, RHYOLITE ASH-FLOW TUFF: high to very high strength, densely welded, purplish-brown, crystal-rich, foliated, abundant flattened rock fragments, close fracture spacing; at SM178, RHYOLITE ASH-FLOW TUFF: medium-high strength, white, nonwelded to partially welded, crystal-rich, ≤10% rock fragments, close to medium fracture spacing.	Tt3 at SM177A: N 36^0 W, 74^0 SW; N 19^0 E, 78^0 NW.	2095-2097, SM176: Chief Range fan alluvium; 2098-2099, 2101-2103, 2107, SM177: Cliffs and rounded outcrops of Tt3; 2100, SM177: Tt3 cliffs and Chief Range alluvial fan; 2104-2106, SM177: Pan WSW of Chief Range alluvial fan; 2108-2109, SM178: pan NE of alluviated slope below Bennett Pass; 2110, SM179: view NW of Tt3 outcrop at SM178 (low ridge) and Cambrian sedimentary rocks.

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CS1	S10	2350+00	3285+00	5 – 8	Tschanz and Pampeyan, 1970; Ekren et al, 1977; Swadley and Simonds, 1990	Black Canyon to western Dry Lake Valley. The alignment descends an alluvial fan sloping west from the Black Canyon and Chief Ranges. This alluvial fan is deeply dissected by Black Canyon and tributary washes. It then enters Dog Hollow, and skirts the Robbers Roost Hills and continues across the flat floor of the Dry Lake Valley. After crossing the valley the alignment ascends an alluvial fan sloping east from the North Pahroc Range skirting hills underlain by Devonian sedimentary rocks that protrude from the fan.	Dry Lake Valley is a half-graben. On its east side, the valley was lowered against a NNE trending normal fault. To the east, a structural block containing the Burnt Springs, Black Canyon, Chief, and Highland Ranges was raised by this fault. On both sides of Dry Lake Valley, the alignment traverses unconsolidated to moderately well-indurated, old Quaternary (early to middle Pleistocene and possibly Pliocene) alluvial-fan deposits (Qao), which consist mostly of sand and gravel. On the valley floor, the alignment crosses fine-grained playa, marsh, and spring deposits of late Pleistocene or early Holocene age (Qayf) that are covered by valley-fill sediments of Holocene age (Qayf). Locally, the valley-fill sediments have been reworked by wind into dunes and sand sheets. Hills of Devonian Guilmette Formation (Dg) protrude from the fan along the west side of Dry Lake Valley; hills of early Miocene tuff (Tt3) and Oligocene dacite to andesite lava flows (Ta2) protrude from the fan along the east side of the valley.	Old Quaternary upper fan alluvium (Qao): at SM166, 175, & 176, medium-dense to very dense, light-brown to reddish-brown, unconsolidated to well-indurated SANDY GRAVEL (GP), slightly clayey SANDY GRAVEL (GP), GRAVELLY SAND (SP), and gravelly SILTY SAND (SP): matrix calcium carbonate and CALCRETE layers; abundant cobbles and scattered to common boulders (to 7 ft diameter) in gravel intervals; Old Quaternary middle fan alluvium (Qao): at SM 168, 173, & 174, loose to very dense, brown to light-grayish-brown SANDY GRAVEL (GP) and silty, SANDY GRAVEL (GP): coarse sand to coarse gravel with subordinate cobbles and small boulders; Old Quaternary lower fan alluvium (Qao): at trench 2, medium-dense to dense, tan, slightly gravelly, fine-grained, SILTY SAND (SP-SM); Quaternary valley-fill sediments (Qayf): at SM170, 171, & trench 1, CLAYEY SILT (ML): very stiff to hard, tan to grayish-white, locally cemented with calcium carbonate, desiccated at the surface.	Not applicable	2034-2037, SM166: views NW of N. Pahroc Range and SE of Dry Lake Valley; 0174, SM166: upper fan alluvium; 2038-2041, SM167: Guilmette Fm quartzite and dolomite; 2042, SM168: middle fan alluvium; 2043-2046, SM169: views ESE & WSW of Dry Lake Valley & N. Pahroc Range; 0180-0181, SM170: Qayf in Dry Lake Valley; 2065-2066, SM173: views WNW of Dry Lake Valley from alluvial fan; 0182-0184, SM173: views SE & NE of Black Canyon Range and Robbers Roost Hills; 2073-2076, SM174: views NW & SE in Dog Hollow; 2079-2083, SM175: pan WNW to NE from Dry Lake Valley to Black Canyon Range; 2084-2086, SM175: Black Canyon Range & alluvial fan; 2087-2088, 2091-2097, SM176: Black Canyon wash & alluvium.

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CS1	S11	3285+00	3450+00	8	Tschanz and Pampeyan, 1970; Taylor, 1990	North Pahroc Range. The alignment climbs a gently east-sloping alluvial fan and ascends rugged slopes on the east side of the North Pahroc Range. The alignment then cuts across the crest of the North Pahroc Range, where Black Rock Spring and other springs commonly issue from volcanic rocks.	The alignment primarily crosses Oligocene volcanic rocks, covered in places by old Quaternary (early to middle Pleistocene) fan alluvium. The Oligocene rocks include miscellaneous volcanic and sedimentary rocks (Tt2) and the Shingle Pass Tuff, Monotony Tuff, and related tuffs and flows (Tsm). Foliation in these rocks generally strikes N to NNE and dips 20^0 - 30^0 east. The volcanic rocks are offset repeatedly by N to NNE trending, high-angle faults. In the central portion of the segment, the alignment crosses two outcrops of Mississipian Scotty Wash Quartzite and Chainman Shale (Msc). In the area of waypoints SM161 and 162, the conglomerate of Black Rock Spring, a volcanic mudflow breccia containing boulders as la as 4-5 ft in diameter, might be associated with two NNE trending faults. Black Rock Spring, Deadman Spring, and an unnamed spring appear to be associated with these faults. Near the end of the segment, the alignment crosses Pennsylvanian Ely Limestone (PPe), which strikes generally NNE and has a WNW dip that steepens eastward from 20^0 to 40^0.	Old Quaternary fan alluvium (Qao): at SM163 & 166, slightly clayey to clayey SANDY GRAVEL (GP): very dense, reddish-brown, abundant cobbles and common boulders (to 3-ft diameter), CALCRETE layers; Oligocene volcanic and sedimentary rocks (Tt2): at SM160 & 161, Dacite? ASH-FLOW TUFF: medium-high strength, light-gray, partially welded, crystal-rich, abundant rock fragments, very close to medium-spaced fractures; at SM162, MUDFLOW BRECCIA: medium-high strength, light-grayish-brown, well-indurated; Shingle Pass and Monotony Tuffs and related rocks (Tsm): at SM164, Dacite? LAVA FLOW: very high strength, gray, porphyritic, flow-banded, close to medium-spaced fractures; at SM165, Dacite? ASH-FLOW TUFF: high-strength, pale-reddish-brown, densely welded, crystal-rich, abundant rock fragments, close to medium-spaced fractures; Pennsylvanian Ely Limestone (PPe): at SM157, CHERTY LIMESTONE: very high strength, gray, medium-crystalline, thin- to medium-bedded, closely to medium-spaced fractures; Mississippian Scotty Wash Quartzite and Chainman Shale (Msc): No site specific description; see Table 3 for general description.	Tsm at SM 165: North, 19^0 East; N 10^0 E, 74^0 NW; N79^0 W, 88^0 NE.	0163, SM159: views SW of volcanic peaks; 0165, SM160: Tt2 outcrop; 1997-1998, SM160: pan ESE toward Dry Lake Valley; 2002, SM160: calcrete horizon in Qao; 2003-2005, SM161: unnamed spring issuing from Tt2; 2008-2014, SM162: Black Rock Spring & Tt2 mudflow breccia from which it issues; 2016-2018, SM163: views WNW & ESE of N. Pahroc Range alluvial fan; 0172, SM164: Tsm outcrop; 2022, SM164: Tsm outcrop & Dry Lake Valley; 2031-2032, SM165: Tsm outcrop; 2027-2028: pan NW of N. Pahroc Range fan; 0174, SM166: Qao.

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CS1	S12	3450+00	3620+00	8 – 9	Tschanz and Pampeyan, 1970; Ekren et al, 1977; Taylor, 1990	North Pahroc Range. The alignment descends the North Pahroc Range, from its crest at an unnamed pass. Topography is rugged because of numerous, mostly WNW trending washes, differential erosion of Tertiary volcanic rocks and Paleozoic sedimentary rocks, and because of the influence of the White River Fault on the wash alignment and slope truncation.	Quaternary fan alluvium is present at the end of the segment. However, this segment is dominated by the NNE trending, high-angle, down-to-the-west White River Fault. This fault brings early Miocene volcanic rocks on the west (Tt3, and Ta3) into contact with the Pennsylvanian Ely Limestone (PPe) on the east. The Ely Limestone generally strikes NNE to NNW and dips 19-22^0 West, but bedding is disrupted in the White River Fault zone. For example, at SM156, beds in the Ely Limestone have been rotated to the northeast and offset by a splay of the White River Fault. Both major splays of the White River Fault, as well as related faults, such as that at SM156, intersect the alignment.	Old Quaternary fan alluvium (Qao): at wpts SM149, 151, & 152, silty, SANDY GRAVEL (GP): dense to very dense, light-brown to light-grayish-brown, abundant cobbles, scattered to common boulders (to 4-ft diameter) of limestone and volcanic rocks, CALCRETE layers; Early Miocene Silicic to intermediate ash-flow tuffs & interbedded ash-fall tuffs (Tt3): variable lithology, represented at SM155 by DACITE ASH-FLOW TUFF: very high-strength, pink, moderately welded, crystal-poor, abundant rock fragments; Early Miocene intermediate lava flows and related intrusives (Ta3): variable lithology, represented at SM155 by ANDESITE FLOWS: high-strength, dark-gray, medium-crystalline; Pennsylvanian Ely Limestone (PPe): variable lithology, represented at SM156 by moderate to very high-strength, light-gray to dark-gray, very thinly to thickly bedded, medium-crystalline CHERTY LIMESTONE, fine-grained DOLOMITE, fine-grained, PLATY LIMESTONE, and SHALY LIMESTONE.	PPe at SM154: N 58^0 E, 76^0 NW; N 70^0 W, 67^0 SW.	0154, SM154: view NNE up White River Fault trace; 1971, SM154: Ppe outcrop; 1974, SM155: view NNE up White R. Fault trace; 0158, SM155: Ppe outcrops; 1979, SM155: Tt3 and Ta3 float; 1985, SM156: Ppe outcrop; 1982, SM156: faulted PPe beds; 1987, SM157: PPe outcrop; 1992-1993, SM158, pan WNW of White R. Valley & Seaman Range; 1989, SM158: view E of Dry Lake Valley; 0163, SM159: view S of volcanic peaks at crest of North Pahroc Range.
CS1	S13	3620+00	3810+00	9 – 10	Tschanz and Pampeyan, 1970	White River Valley. The alignment follows the east side of the White River Valley below west-facing slopes of the North Pahroc Range. Numerous W to WNW trending washes, as much as 100 ft deep, are incised into slopes crossed by the alignment.	There is no direct access to this segment. Descriptions are based on outcrops close to the alignment at both ends of this segment and pictures taken of fan alluvium at SM149. The alignment initially is on old Quaternary (early to middle Pleistocene) fan alluvium (Qao), but it crosses onto Tertiary basin-fill sediments (Tsy) by the end of the segment.	Old Quaternary fan alluvium (Qao): at wpts SM149, 151, & 152, silty SANDY GRAVEL (GP): dense to very dense, light-brown to light grayish-brown, abundant cobbles, scattered to common boulders (to 4-ft diameter) of limestone and volcanic rocks, CALCRETE layers; Tertiary basin-fill sediments (Tsy): see S14.	Not applicable	1962, SM151: Reclaimed borrow pit; 1963-1965, 0152, 0154, SM152: Qao exposed in a wash; 0151, SM152: view downwash of fan alluvium & White R. Valley; 1966-1967, SM153: view NE of contact between Qao and Tertiary volcanic rocks cropping out in N. Pahroc Range.

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SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
CS1	S14	3810+00	3910+00	10 – 11	Tschanz and Pampeyan, 1970	White River Valley. Curving north on the east side of the valley, the alignment descends a bench beneath an alluvial fan extending west from the North Pahroc Range. At "the Sinks," the route curves to cross the flat-bottomed river valley. The alignment continues NNW up a dissected bench bordering the west side of the White River floodplain.	At the beginning of this segment, the alignment descends a bench underlain by Tertiary basin-fill sediments (Tsy). The contact between Tertiary sediments and Quaternary fan alluvium (Qao) on the east side of this bench is uncertain because of gravel sloughing down from alluvial fans extending west from the North Pahroc Range. The alignment then traverses Quaternary (Pleistocene and Holocene) floodplain deposits (Qc). At the Sinks, where the alignment crosses the White River Valley, the river has no channel. In ascending the bench on the west side of the White River floodplain, the alignment crosses Tertiary basin-fill sediments (Tsy) and lakebeds (Tl). The gravelly basin-fill sediments and fine-grained lakebeds interfinger.	Quaternary floodplain and channel alluvium (Qc): at SM144, 147, & 253, stiff to hard, light-brown to light-gray, CLAYEY SILT (ML) and CLAY (CH), desiccated at land surface; Old Quaternary fan alluvium (Qao): at SM148 & 149, dense to very dense, light-brown, silty, SANDY GRAVEL (GP) with abundant carbonate-coated cobbles and scattered small boulders and thin CALCRETE layers; Tertiary basin-fill sediments (Tsy): at SM255, loose to very dense, reddish-brown, locally cemented, SANDY GRAVEL (GP) with abundant cobbles and scattered small boulders; interbedded subordinately with stiff to very stiff, yellowish-brown SANDY SILT (ML) and CLAY (CL); interfingering with, and grading to Tertiary lakebeds (Tl): at SM150 & 253, stiff to hard, light-brown to reddish-tan, SANDY SILT (ML) with trace gravel and CLAY (CH), capped with gravel and cobbles.	Not applicable	1951, SM148: view W across White River Valley (WRV); 1954-1955, SM149: pan S of washes dissecting fan along alignment; 1956, SM149: view W of cuts in gravel-capped Tl along Hwy 318; 1959, SM150: cut in gravel-capped Tl on Hwy 318; 1960-1961, SM150: Hwy 318 cuts and fills in Tl; 2882-2884, SM253: pan S along alignment; 2885-2887, SM253: pan NW at WRV crossing; 2888, SM253: Tsy; 2889-2891, SM253: Qc at Rye Patch Reservoir; 2892-2893, SM254: Hwy 318 cuts in Tsy; 2894-2897, SM254: pans SE & NW along alignment; 2899-2900, SM255: pans NW & SE along alignment; 2903-2906, SM295: Tsy outcrop.

TABLE 5
SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
CS1	S15	3910+00	5200+00	11 – 15	Tschanz and Pampeyan, 1970; Kleinhampl and Ziony, 1985; du Bray and Hurtubise, 1994	White River Valley, Seaman Range, Coal Valley. This segment originates above the White River Valley. Numerous shallow washes dissect the alluvial fan on the north and east sides of the Seaman Range. The alignment ascends an alluvial fan sloping NE from the Seaman Range to the White River, crosses a low divide near the northern end of the range, then descends an alluvial fan sloping SW. The alternate ends in Coal Valley at the distal end of an alluvial fan sloping SW from the Seaman Range.	Near the beginning of this segment, at the eroded edge of alluvial fans extending east from the Seaman Range, the alignment alternately crosses fan alluvium (Qao), and Tertiary basin-fill sediments (Tsy). Predominantly unconsolidated gravel and cobbles, the basin-fill sediments interfinger with, and grade into the fine-grained lakebeds. This alignment mostly traverses old Quaternary (early to middle-Pleistocene) fan alluvium. At the pass through the Seaman Range, the route skirts around outcrops of Quaternary-Tertiary basalt (QTb), Oligocene Shingle Pass Tuff, Needles Range Group, and related tuffs (Tsn), Paleocene to Eocene Sheep Pass Formation (Tsp), and Mississippian Joana Limestone (Mj).	Old Quaternary upper fan alluvium (Qao): at SM123 & 141, dense to very dense, light-brown, slightly silty, SANDY GRAVEL (GP) with abundant carbonate-coated cobbles and small boulders and thin CALCRETE layers; Old Quaternary distal fan alluvium (Qao): at SM128, dense, brown, SANDY SILT (ML) with trace gravel; Tertiary lakebeds (Tl): at SM143, interbedded stiff, tan CLAYEY SILT (ML), stiff to hard, reddish-brown to tan, SILTY CLAY (CL to CH), and subordinate, loose, brown, fine-grained SAND (SP), capped by ~15 ft of dense, gray, silty, SANDY GRAVEL (GP) with abundant cobbles and scattered boulders; Tertiary basin-fill sediments (Tsy): at SM255, loose to very dense, reddish-brown, locally cemented, SANDY GRAVEL (GP) with abundant cobbles and scattered small boulders; interbedded subordinately with stiff to very stiff, yellowish-brown SANDY SILT (ML) and CLAY (CL); Oligocene Shingle Pass Tuff, Needles Range Group, and related tuffs (Tsn): nr SM127, very high-strength, light-gray, moderately welded, crystal-poor, RHYOLITE ASH-FLOW TUFF.	No data	1774-1777, SM128: pans NE & SW along alignment; 1778-1779, SM128: distal Seaman Range fan alluvium; 1770-1773, SM127: pans NE & SW along alignment; 1767-1769, SM125: pans W and E along alignment; 1761-1764, SM124: pans SE and NW along alignment; 1765-1766, SM124: fan Qao; 0131, SM123: view E to White R. Valley and N. Pahroc Range; 0114, SM123: fan Qao; 0115, SM123: wash incised into Qao on E side of Seaman Range; 1904-1907, SM141: pans NW & SE along alignment; 0144, SM141: view E of White R. Valley & N. Pahroc Range; 0143, SM141: Qao in wash; 1910-1911, SM142: Tl & Tsy exposed below Qao in wash; 1913-1920, SM143: Tl outcrops; 2899-2900, SM255: pans NW & SE along alignment; 2903-2906, SM295: Tsy outcrop.

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SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
CS1 and GV1	S16	5200+00	6400+00	15-18, 20-21	Tschanz and Pampeyan, 1970; Kleinhampl and Ziony, 1985; Workman et al, 2002a	Coal Valley, Golden Gate Range, and Garden Valley. This segment starts on the west side of Coal Valley at the distal end of an alluvial fan sloping gently southwestward from the Seaman Range. Westward, the alignment ascends an east-sloping alluvial fan to a low divide in the Golden Gate Range, and then descends an alluvial fan sloping west into Garden Valley. The alignment continues southwestward across terrain sloping gently east to a tributary of Cherry Creek, a south-draining wash on the east side of the valley. From this wash, the segment ascends an alluvial fan sloping gently eastward from the Quinn Canyon Range, where it crosses Cherry, Sand, Pine, Cottonwood, and Barton Creeks.	The route traverses old Quaternary alluvium (early to middle Pleistocene) as it descends the distal end of the Seaman Range alluvial fan, and young Quaternary (Holocene to latest Pleistocene) fine-grained sediments (Qayf) on the floor of Coal Valley. In crossing the Golden Gate Range, the alignment skirts outcrops of the Oligocene Shingle Pass Tuff and Needles Range Group (Tsn), the Pennsylvanian Ely Limestone (PPe), and the Devonian Guilmette Formation (Dg). In descending westward from Golden Gate Range, the route traverses young Quaternary (Holocene to Pleistocene) fan alluvium (Qay). The route traverses Quaternary (Holocene to latest Pleistocene) stream channel and floodplain alluvium (Qc) where it crosses a south-draining wash on the east side of Garden Valley. West of this wash, the segment traverses old Quaternary (early to middle Pleistocene) valley floor alluvium (Qao). The segment ends on young Quaternary (Holocene to Pleistocene) fan alluvium (Qay).	Young Quaternary fan alluvium (Qay): at SM129 & 257, medium-dense to very dense, light-brown to reddish-brown, sandy, SILTY GRAVEL (GM) and fine SANDY GRAVEL (GP) with cobbles and small boulders and CALCRETE layers; Old Quaternary valley floor alluvium (Qao):, at SM118, 119, & 122, dense, reddish-brown, gravelly SILTY SAND (SM-SP) with scattered cobbles and CALCRETE layers, grading toward the center of Garden Valley into very dense, brown, slightly gravelly, fine-grained SILTY SAND (SM); Shingle Pass Tuff and Needles Range Group (Tsn): at SM131, very high-strength, light-gray, moderately welded RHYOLITE ASH-FLOW TUFF with medium to widely spaced fractures; Ely Limestone (PPe): at SM130, very high-strength, gray, thin to medium-bedded, slope-forming, fine-grained LIMESTONE and thick-bedded, cliff-forming, CHERTY LIMESTONE with very closely to widely spaced fractures; Guilmette Formation (Dg): at SM256, very high-strength, gray, finely crystalline, laminated to thickly bedded, cliff-forming LIMESTONE with medium to widely spaced fractures; Young Quaternary fine-grained sediments (Qayf): at SM133, stiff, brown, SANDY SILT (ML) with trace fine gravel, desiccated at the surface; Old Quaternary distal fan alluvium (Qao): at SM128, stiff, brown, SANDY SILT (ML) with trace gravel, desiccated at the surface; Quaternary stream channel and floodplain alluvium (Qc): at SM258, stiff, grayish-brown, CLAY (CL), desiccated at the surface.	Dg at SM256: N87^{0}E, 88^{0}SE; N07^{0}W, 84^{0}SW	1715-1716, SM118: view SW of Worthington Mts alluvial fan; 1717-1718, SM 118: view NE of Garden Valley (GV) & Golden Gate Range (GGR); 1720-1723, SM119: views NE and SW of GV; 1724-1725, SM119: Qao in GV; 1749-1752, SM122: views NE and SW of GV; 1793-1796, SM131; Tsn in GGR; 1797-1798, SM131: view NE of Devonian and Mississippian rocks in GGR; 2911-2913, SM256: Dg in GGR; 1790-1792, SM130: PPe in GGR; 0116, 1780-1781, SM129: fan Qay from GGR in Coal Valley; 2920-2923, SM257: fan Qay from GGR in Garden Valley; 1787, SM129: view NE of Coal Valley; 1815 & 1815b, SM134: Coal Valley and Qayf; 1776-1777, SM128: view SW of Coal Valley from Seaman Range alluvial fan.

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CS2	S20	6400+00	6535+00	21 and 24	Tschanz and Pampeyan, 1970; Workman et al, 2002	Garden Valley to eastern Quinn Canyon Range. The alignment ascends out of Garden Valley and crosses an eastern spur of the Quinn Canyon Range. The alignment curves around low hills and crosses shallow washes in cutting through the Quinn Canyon Range.	The alignment traverses Miocene-Oligocene silicic ash-flow tuff for nearly the entire length of this segment (Tt3). A young Quaternary (Holocene to late Pleistocene) alluvial fan (Qay) sloping east from the Quinn Canyon Range me with an old Quaternary alluvial fan (Qao) sloping NW from the Worthington Mountains near the start of the segment, and shallow pockets of old Quaternary (early to middle-Pleistocene) fan alluvium (Qao) are present at the end of the segment. Two NNE trending, high-angle faults, which bring Oligocene tuff (Tt2) in contact with Miocene-Oligocene tuff (Tt3), intersect the alignment on the west side of this segment. McCutchen Spring issues from one of these faults 4,500 ft north of alignment station 6500+00. Slickensides, brecciated rock, and aligned topography indicate the presence of a NNE-trending fault in the vicinity of wpt SM115. It intersects the alignment at 6450+00. Topographic lineaments imply that other NNE trending faults may intersect the alignment in this segment.	Young Quaternary fan alluvium (Qay): near wpt SM116, slightly gravelly, SILTY SAND (SM), medium-dense, brown, fine-grained, moist; Miocene-Oligocene Silicic ash-flow tuff interbedded with ash-fall tuff (Tt3): at wpt SM114, RHYOLITE ASH-FLOW TUFF, weathered and mostly covered by colluvium, which is very dense, slightly silty, SANDY GRAVEL (GP) consisting of gravel to cobble-sized fragments of weathered, densely welded tuff in a matrix of reddish-brown, silty, fine to coarse sand; at wpt SM115, RHYOLITE ASH-FLOW TUFF: very high-strength, densely welded, pale brownish-red, slightly weathered, porphyritic, mafic rock fragments, very close to medium fracture spacing, locally brecciated along an outcrop face indicated by slickensides to be a fault scarp.	Tt3 at wpt SM114: dominant joint set: N 75^0 W, 81^0 SW; Tt3 at wpt SM115: major joint sets: N 1^0 E, 68^0 SE, slickensides; N 75^0 E, 85^0 SE, uneven surface; subhorizontal set, strike and dip not measured.	1694-1695, SM114: view ENE of Quinn Canyon Range; 1696, SM114: view SW of wash incised into Quinn Canyon alluvial fan; 1697, SM114: Tt3 outcrop; 0104, SM114: colluvium covering Tt3 at base of hill skirted by the alignment; 1698-1701, SM115: swale between two hills underlain by Tt3, through which the alignment passes; 1704, SM115: Tt2 colluvium; 1705, 0105, SM115: scarp of a NNE trending fault cutting Tt3; 0107-0108, SM115: fault scarp, showing joints and slickensides in Tt3; 1706-1707, 0110, SM116: views NE of Garden Valley and Golden Gate Range.

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CS2	S21	6535+00	7410+00	24 – 27	Tschanz and Pampeyan, 1970; Cornwall, 1972; Workman et al, 2002	Eastern Quinn Canyon Range to western Quinn Canyon Range along northern Sand Spring Valley. This segment starts just west of a low pass in an east spur of the Quinn Canyon Range where a south-sloping alluvial fan abuts volcanic rocks. The alignment then trends southwesterly, traversing the upper part of a southeast-sloping alluvial fan in Sand Spring Valley, and ends at a low pass through a western spur of the Quinn Canyon Range.	At the start of the segment, the corridor crosses a NNE trending, high-angle fault, which brings Oligocene tuff (Tt2) in contact with Miocene-Oligocene tuff (Tt3). In descending an east spur of the Quinn Canyon Range, the corridor crosses NNW and NNE striking faults that extend south from the Quinn Canyon Range and are concealed by the fan alluvium. In Sand Spring Valley, the corridor traverses old Quaternary (middle to late Pleistocene) fan alluvium (Qao) and small outcrops of Miocene-Oligocene silicic ash-flow tuffs (Tt3) along the upper parts of a south-sloping fan, and then traverses young Quaternary (Holocene to late Pleistocene) fan alluvium (Qay) sloping southeast from the Quinn Canyon Range. In western Sand Spring Valley, the alignment traverses outcrops of Miocene-Oligocene intermediate lava flows and rhyolitic ash-flow tuff (Tt3). Two northerly-striking, high-angle faults bound the easternmost of these outcrops. Crossing the west spur of the Quinn Canyon Range, the alignment is entirely on Oligocene (?) bedded ash-fall tuff and nonwelded ash-flow tuff (Tt2).	Young Quaternary upper fan alluvium (Qay): at wpt SM112, slightly silty, SANDY GRAVEL (GP), very dense, brown, abundant cobbles and scattered boulders; Old Quaternary upper fan alluvium (Qao): at wpt SM113, dense, brown, slightly silty, GRAVELLY SAND (SP) to a depth of ~4 in. overlying very dense CALCRETE; Miocene-Oligocene intermediate lava flows and intrusives (Ta3): at wpt SM111, DIORITE INTRUSIVE, very high-strength, dark-gray, moderately weathered, locally covered with talus and colluvium; Miocene-Oligocene Silicic ash-flow tuffs (Tt3): at wpt SM111, RHYOLITE ASH-FLOW TUFF, medium-high strength, partially welded, light-gray, crystal-rich, <5% volcanic rock fragments, slightly weathered, very closely to widely spaced fractures; Oligocene ash-flow and ash-fall tuffs (Tt2): at and east of wpt SM110, RHYOLITIC ASH-FALL TUFF AND REWORKED TUFF: moderate to medium high-strength, pale orange and white, nonwelded, pumiceous, crystal-rich, abundant cobble-sized, mafic clasts, fresh to slightly weathered, very thickly bedded, very closely to widely spaced fractures.	No data	1641, W of SM110: Tt2 tuffs south of alignment; 1644-1646, 1650-1661, SM110: Tt2 bedded tuff outcrops; 1647, SM110: view WSW of alignment; 1649, SM110: colluvium on Tt2; 1662-1664: view NW of irregular Tt2 topography; 1665-1666, SM111: view NE of Tt3 outcrops; 1667-1668, SM111: view SW of Tt3 colluvium and hill underlain by Ta3; 1669-1670, 1674, SM112: views SW of Sand Spring Valley; 1671-1672, 1675, SM112: views NE of Quinn Canyon Range; 1676-1679, SM113: views SW of Sand Spring Valley and NE of Quinn Canyon Range.

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SR3	S22	7410+00	7520+00	27	Cornwall, 1972; Workman et al, 2002a	Quinn Canyon Range. The alignment crosses a pass through a west spur of the Quinn Canyon Range, and descends the upper part of a fan sloping west from the range.	The alignment crosses a west spur of the Quinn Canyon Range, which alternately is formed by Oligocene ash-flow and ash-fall tuffs (Tt2) and Miocene-Oligocene lava flows and intrusives of intermediate composition (Ta3). Foliation in the lava flows strikes N 50^0 E and dips 37^0 SE. Shattered rock at wpt SM109 and aligned topography in the vicinity indicate a N 13^0 E striking, high-angle fault in Miocene-Oligocene lava flows (Ta3) that intersects the alignment at station 7430+00. The alignment then descends onto the top of an alluvial fan sloping eastward from the Quinn Canyon Range. At the top of the fan, the alignment crosses young Quaternary (Holocene to late Pleistocene) upper fan alluvium (Qay), and then old Quaternary (middle to late Pleistocene) middle fan alluvium (Qao).	Young Quaternary upper fan alluvium (Qay): at SM106 and 107, thin layers of loose to very dense, reddish-brown to brown, GRAVELLY SAND (SP), slightly silty GRAVELLY SAND (SP), and SANDY GRAVEL (GP); Old Quaternary middle fan alluvium (Qao): at wpt SM105 (not shown on maps), slightly gravelly, SILTY SAND (SM), very dense, reddish-brown; Miocene-Oligocene lava flows of intermediate composition (Ta3): at SM109 & 347, very high-strength, dark-gray, porphyritic ANDESITE LAVA FLOW, with very closely to widely spaced fractures, that weathers to brownish, rounded outcrops; Oligocene Silicic ash-flow and ash-fall tuffs (Tt2): at SM347, 108, 348, & 110, very high-strength, gray, brick-red, and pinkish-tan, densely welded, commonly lithic-rich, partly vesicular (lithophysal) DACITE? to RHYOLITE ASH-FLOW TUFFS, with very closely to widely spaced fractures; overlain by moderate to medium-high-strength, pale orange and white, nonwelded, pumiceous, massive-weathering, very thickly bedded RHYOLITIC ASH-FALL TUFF AND REWORKED TUFF, with abundant cobble-sized, mafic clasts and very closely to widely spaced fractures.	Ta3 at SM347: N82^{0}E, 63^{0}NW; Tt2 at SM347: N50^{0}E, 56^{0}NW; N26^{0}W, 60^{0}NE; Tt2 at SM108: N19^{0}E, 81^{0}NW; N52^{0}W, 61^{0}SW.	1625-1629, SM107: wash cut into Quinn Canyon Range alluvial fan and close-up of Qay outcrop; 1630, 1633-1634, SM108: views NE of Quinn Canyon Range and Tt2 outcrops; 1631-1632, SM108: view SW from Ta3 outcrops in Quinn Canyon Range to Reveille Range; 1635-1637, SM108: view SSW of Quinn Canyon Range; 1638, SM108: Tt2 outcrop; 1639, SM109: view S of Quinn Canyon Range; 1640, SM109: brecciated Ta3 outcrop in a linear wash north of the alignment.
SR3	S23	7520+00	8100+00	27 – 30	Cornwall, 1972; Workman et al, 2002a	Quinn Canyon Range to Railroad Valley. This alignment descends southwesterly across an alluvial fan sloping west from the Quinn Canyon Range. Just southwest of the crossing of State Highway 375, the alignment turns more westerly, and crosses the gently northeast-sloping floor of Railroad Valley.	The alignment traverses old Quaternary alluvium (Qao) on the Quinn Canyon alluvial fan and young Quaternary alluvium on the valley floor (Qc and Qay).	Young Quaternary valley floor alluvium (Qay): at wpts SM101, 103, & 104, slightly gravelly, SILTY SAND (SM), very dense to dense, reddish-brown to brown; Young Quaternary stream channel and floodplain deposits (Qc): No site specific description; see Table 3 for general description; Old Quaternary middle fan alluvium (Qao): at wpt SM105 (not shown on maps), slightly gravelly, SILTY SAND (SM), very dense, reddish-brown.	Not applicable	1601-1603, SM102: view NE of Railroad Valley and Quinn Canyon Range; 1604, nr SM102: Coyote on Qay in Railroad Valley; 1606-1607, SM103: view ENE of Railroad Valley and Quinn Canyon Range; 1608-1609, SM103: view WSW of Railroad Valley; 1611-1612, SM104, view SW at Hwy 375; 1613-1614, SM104, view NNE of Railroad Valley; 1615-1616, SM105: Reed North Base triangulation station on Quinn Canyon Range alluvial fan; 1617-1620, SM106: views E of Qay at pipeline crossing of Quinn Canyon Range alluvial fan; 1621-1624, SM106: views W of Quinn Canyon Range alluvial fan and Reveille Valley

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SR3	S25	8100+00	8600+00	30 – 31	Ekren et al, 1971; Cornwall, 1972; Workman et al, 2002a	Reveille Valley. This segment starts on valley floor alluvium just south of basalt outcrops of the southern Reveille Range. The alignment then crosses a small outcrop of old Quaternary fan alluvium before traversing a plateau of dacite lava flows. The segment ends on the Kawich Range alluvial fan.	Near the south end of the Reveille Range, the alignment crosses and skirts young Quaternary (Holocene to latest Pleistocene) valley floor alluvium (Qay) and Tertiary (Pliocene) valley floor alluvium (QTa), respectively. Old Quaternary (early to middle Pleistocene) alluvium (Qao) is present in the distal Kawich Range fan, in the south-draining trunk wash on the valley floor, and in tributaries to this wash. Oligocene dacite lava flows (Ta2) form the plateau along the central part of the segment, and Quaternary-Tertiary basalt (QTb) flows form the plateau on the west side of the valley.	Young Quaternary valley floor alluvium (Qay): at wpt SM101, slightly gravelly, slightly clayey, SILTY SAND (SM), very dense, reddish-brown; Old Quaternary channel alluvium (Qao): at wpts SM95, 97-98, very dense to dense, reddish-brown, slightly gravelly SILTY SAND (SM), slightly silty GRAVELLY SAND with scattered cobbles and boulders (SP), and slightly clayey, silty SANDY GRAVEL (GW); Quaternary-Tertiary fan alluvium (QTa): at wpt SM99, slightly gravelly, slightly clayey, SILTY SAND (SM): very dense, reddish-brown; Quaternary-Tertiary basalt (QTb): at wpt SM96, BASALT LAVA FLOW, very high-strength, dark-gray, very vesicular in upper 3 ft and non-vesicular below, fresh except for desert varnish on joint surfaces, widely spaced fractures; Oligocene lava flows and intrusives of intermediate composition (Ta2): at wpt SM100, DACITE LAVA FLOW, very high-strength, purple, porphyritic, locally flow-banded, fresh except on oxidized joint faces, very closely to widely spaced, diversely oriented fractures dominated by two vertical sets.	QTb at wpt SM96: N 12^0 E, 86^0 SE, planar; N 62^0 W, 83^0 SW, planar; and a set that is subhorizontal	1573-1575, SM96: Quaternary-Tertiary basalt flow exposed in a wash on the floor of Reveille Valley; 1587-1588, SM99: view E at lower end of Reveille Valley; 1589-1590, SM99, view W to Kawich Range at lower end of Reveille Valley; 1591, 1593-1594, SM100: Ta2 plateau, incised slot canyon, and outcrops; 1595-1596, SM101: view E of Qay at lower end of Reveille Valley; 1597-1598, SM101: view W of Qay at lower end of Reveille Valley.
SR3	S26	8600+00	9215+00	31 – 34	Cornwall, 1972; Workman et al, 2002a	Reveille Valley. The alignment trends northwest from the floor of the Reveille Valley to the lower part of an alluvial fan sloping east from the Kawich Range. Numerous NE trending washes dissect the alluvial fan. A low divide on the valley floor opposite Station 8765+00 separates northward-draining and southward-draining trunk washes on the valley floor.	The alignment is entirely on old Quaternary (early to middle Pleistocene) fan and valley floor alluvium (Qao) in this segment.	Old Quaternary middle fan alluvium (Qao): at wpt SM93, gravelly, SILTY SAND (SM), dense, reddish-brown, clasts fine to coarse gravel with scattered cobbles; Old Quaternary distal fan alluvium (Qao): at wpt SM94, gravelly, sandy, SILTY CLAY (CL), stiff, reddish-brown, moist; Old Quaternary tributary wash alluvium (Qao): at wpt SM95, slightly clayey SANDY GRAVEL (GW), very dense, reddish-brown, fine to coarse gravel.	Not applicable	0099, west of SM93: Reveille Mill ruins in Reveille Valley; 0101, west of SM93: spring issuing at Reveille Mill ruins and Kawich Range; 1555, 1559-1561, SM93: views west along aqueduct to Kawich Range; 1553, 1556, SM93: views east along aqueduct from spring to Reveille Valley; 1562, 1564: edge of Quaternary-Tertiary basalt flows; 1565-1566, SM94: view SE down Reveille Valley; 1567-1568, SM94: view NW up Reveille Valley; 1569-1570, SM95: view SE down Reveille Valley; 1571-1572, SM94: view NW up Reveille Valley

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SR3	S27	9215+00	9480+00	34 – 35	Whitebread and John, 1992; Workman et al, 2002a	Reveille Valley. The alignment trends north-northwesterly from the lower to the middle part of an alluvial fan sloping east into the Reveille Valley from the Kawich Range. Numerous east- to northeast-trending washes dissect the alluvial fan.	The alignment is entirely on old Quaternary (middle to late Pleistocene) fan alluvium (Qao) in this segment.	Old Quaternary middle fan alluvium (Qao): at wpts SM91-92, SANDY GRAVEL (GP), dense to very dense, reddish-brown, abundant caliche-coated cobble to boulder-sized clasts, slightly silty as lower fan is approached; Old Quaternary lower fan alluvium (Qao): at wpt SM93, gravelly, SILTY SAND (SM), dense, reddish-brown, clasts fine to coarse gravel with scattered cobbles.	Not applicable	1545, SM91: view W of Kawich Range and alluvial fan; 1546-1547, SM92: view NNE of Kawich Range and alluvial fan; 1548-1549, SM93: view SSW of Reveille Valley;
SR3	S28	9480+00	9760+00	35 – 36	Gardner et al, 1980; Kleinhampl and Ziony, 1985; Whitebread and John, 1992; Workman et al, 2002a	Reveille Valley to northern Kawich Range. The alignment trends north-northeasterly along the east side of the Kawich Range on bedrock outcrops and an alluvial fan sloping east toward the Reveille Valley. The fan is dissected by several E to NE trending washes, the last of which is Cow Canyon. Where the alignment crosses over it, Cow Canyon is ~700 ft across and ~80 ft deep.	Following the trace of a northerly trending, range-bounding, down-to-the-east fault, the alignment initially traverses middle to late Pleistocene fan alluvium (Qao) and then crosses the early Miocene Pahranagat Formation (Tt3). The alignment briefly traverses Quaternary (Holocene to late Pleistocene) channel alluvium (Qc) at the Cow Canyon crossing.	Quaternary channel alluvium (Qc): at SM325, loose, brown, GRAVELLY SAND (SP), in medium-grained and coarse-grained intervals, with SANDY GRAVEL (GP) seams; scattered cobbles and rare boulders to 4-ft diameter in channels; Old Quaternary upper fan alluvium (Qao): at SM90, slightly silty, SANDY GRAVEL (GP), dense, reddish-brown, fine to coarse gravel with scattered cobbles; Old Quaternary middle fan alluvium (Qao): at SM91, SANDY GRAVEL (GP), dense to very dense, reddish-brown, abundant carbonate-coated cobble to boulder-sized clasts; Pahranagat Formation (Tt3): in Cow Canyon west of SM90, RHYOLITE ASH-FLOW TUFF, very high-strength, moderately to densely welded, gray to purplish-gray, porphyritic, abundant volcanic rock fragments, slightly weathered on joint surfaces, very closely to widely spaced fractures.	No data	1525-1526, west of SM90: Tt3 in Cow Canyon; 1527-1531, SM90: views E from Cow Canyon to Reveille Valley; 1536, nr SM90: possible intrusive south of Cow Canyon; 1537-1540: possible intrusive in Kawich Range; 1541-1544: view E to basalt flows in Reveille Valley.

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SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

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CS3 and SR3	S29	9760+00	9960+00	36	Gardner et al, 1980; Kleinhampl and Ziony, 1985; Whitebread and John, 1992; Workman et al, 2002a	Northern Kawich Range at Warm Springs Summit. This segment starts on the top of an alluvial fan sloping east from the Kawich Range, then crosses a bench below the steeply rising slopes of the Kawich Range. This bench is dissected by many washes, some of which are relatively deep. At approximate Station 9800+00, the alignment begins a broad westward turn alongside US-6 to cross Warm Springs Summit, an east-west pass through the Kawich Range.	The segment starts on Old Quaternary (middle to late Pleistocene) fan alluvium (Qao) along the proximal Kawich Range fan. In the same area, Black Spring issues from colluvium overlying faulted Pahranagat Formation (Tt3), 900 ft west of, and upslope from the alignment. From about 9795+00 to 9885+00, the alignment mostly is on hydrothermally altered Oligocene ash-flow tuff included in the Monotony Tuff and other formations (Tt2). Five northeast- to north-northeast-trending faults are mapped in the area. Most of these faults displace altered Oligocene tuff (Tt2) against the Pahranagat Formation (Tt3) for at least part of their lengths. The segment ends in shallow colluvium and young Quaternary (Holocene and late Pleistocene) fan alluvium (Qay) presumably overlying the early Miocene Pahranagat Formation (Tt3), which crops out just east of Warm Springs Summit.	Young Quaternary fan alluvium (Qay): at SM85 & 86: dense to very dense, reddish-brown, slightly silty to silty, SANDY GRAVEL (GP to GP-GM) with cobbles and scattered boulders to 3 ft diameter; Old Quaternary fan alluvium (Qao): at SM90, dense, reddish-brown, slightly silty, SANDY GRAVEL (GP) with scattered cobbles; Pahranagat Formation (Tt3): west of SM90, RHYOLITE ASH-FLOW TUFF, very high-strength, moderately to densely welded, gray to purplish-gray, porphyritic, abundant volcanic rock fragments, fresh to slightly weathered, very closely to widely spaced fractures; Oligocene ash-flow tuffs of intermediate composition (Tt2): at SM87, hydrothermally altered ASH-FLOW TUFF: uppermost at SM87, high-strength, greenish-gray, welded, crystal-rich tuff with chlorite-phase alteration and closely spaced fractures; less welded intervals below are similar in color and texture but probably lower in strength; ledge and slope topography as a result of variable welding.	Tt2 at wpt SM87: diversely oriented joints, but the major set at this site is oriented N 29^0 E, 81^0 NW, and is planar.	1471-1477, SM82: Tt3 outcrops on US-93 W of Warm Springs Summit; 1484-1485, SM 84: view SW of alignment crossing Ta4 outcrop; 1486-1487, SM84: views E to Warm Springs Summit; 1490-1493, SM85: borrow pit in Qay; 1508, SM87: possible dikes intruding Tt2 & Tt3; 1498-1500, nr SM87: Tt2 in contact with Tt3 at Warm Springs Summit; 1505, SM87: view N of Tt3 from Tt2 outcrop; 1507, SM87: Tt2 outcrop; 1509, NE of SM87: view of ledge and slope topography developed on Tt2 south of Warm Springs Summit; 1510-1512, SM88, view NE of Warm Springs Summit; 1513-1514, SM88: view SW of Reveille Valley; 1515, SM88, view E across Reveille Valley; 1516, SM88: view W of Kawich Range; 1524, SM89: Black Spring and vicinity.

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CS3	S30	9960+00	11270+00	36 – 42	Gardner et al, 1980; Kleinhampl and Ziony, 1985; Whitebread and John, 1992; Workman et al, 2002a	Northern Kawich Range at Warm Springs Summit to Stone Cabin Valley. The alignment continues a sweeping turn from Warm Springs summit to descend into Stone Cabin Valley. The segment starts on isolated colluvium and bedrock outcrops along a west-sloping alluvial fan bordering the west side of the Kawich Range. The alignment gradually descends the fan in a southwesterly direction, ending on an alluvial plain in Stone Cabin Valley.	This segment starts on the upper part of an alluvial fan sloping west from the Kawich Range, where outcrops of early to late Miocene volcanic rocks (Tt3 and Ta4) protrude through the upper fan alluvium northwest of the Clifford Mine. The Clifford Mine is inactive. The main shaft is about 2,000 feet ESE of the alignment, and the closest shafts related to this mine still are about 1200 feet ESE of the alignment. Foliation in rhyolitic ash-flow tuff and dacite lava flows on the west side of Warm Springs Summit strikes N 19-36^0 E and dips 15-16^0 SE. As the corridor descends the alluvial fan on the west side of the Kawich Range, the alluvium becomes increasingly fine-grained. Well-bedded upper fan alluvium (Qay) generally dips outward from the mountain front at angles of $\leq 5^0$, but a meandering, boulder and cobble-filled paleo-stream channel was observed in a 15 to 20-ft deep pit at waypoint SM78. At the end of this segment (southwest of 11200+00), the rail corridor borders, and locally crosses a depression filled with fine-grained Holocene to latest Pleistocene sediments (Qayf).	Young Quaternary fine-grained alluvium (Qayf): at SM69, SILTY SAND (SM), dense, reddish-brown, fine-grained, overlain by <1 ft of hard, beige CLAYEY SILT (ML); Young Quaternary distal fan alluvium (Qay): at SM70-72, gravelly, SILTY SAND (SM), medium-dense, reddish-brown, fine-grained; Young Quaternary lower fan alluvium (Qay): at SM73, silty, SANDY GRAVEL (GM), very dense, reddish-brown, fine to coarse gravel and scattered cobbles; Young Quaternary middle to upper fan alluvium (Qay): at SM78, light-brown, loose to very dense, fine-grained SAND (SP), silty GRAVELLY SAND (SM), and silty SANDY GRAVEL (GP), CALCRETE in upper 3 ft; Late Miocene intermediate lava flows and intrusives (Ta4): at SM83, DACITE LAVA FLOW, medium-high to high-strength, purple, porphyritic, moderately to highly weathered, very closely to closely spaced fractures; Early Miocene Silicic ash-flow tuffs (Tt3): at SM82, RHYOLITE ASH-FLOW TUFF, high-strength, moderately welded, light-gray, porphyritic, 10-20% volcanic rock fragments, moderately vesicular (lithophysal), very closely to closely spaced fractures.	Ta4 at SM83: N 71^0 W, 75^0 SW, oxidized; N 10^0 E, 79^0 NW, oxidized; Tt3 at SM82: N 28^0 W, 69^0 SW, uneven; N 66^0 E, 63^0 NW, uneven.	1422-1425, SM69: views NE and SW of Stone Cabin Valley; 1426, SM69: excavated Qayf; 1427-1430, SM70: views NE and SW of Stone Cabin Valley; 1432-1433, SM71: road in Qayf; 1434-1437, SM72: views NE and SW of Stone Cabin Valley; 1438-1439, SM73: gravel pit in fan alluvium (Qay); 1451-1452, SM75: view SW of Stone Cabin Valley; 1453-1454, SM75: view NE of Kawich Range alluvial fan and Warm Springs Summit; 1457-1461, SM76: views NE and SW of Kawich Range alluvial fan and Warm Springs Summit; 1462-1465, SM77, views NE and SW of Kawich Range alluvial fan and Warm Springs Summit; 1466, 0073-0079, SM78: trench in alluvial fan on west side of Kawich Range; 0082-0087, 0089-0098, SM79-81: Clifford Mine and vicinity; 1479-1481, 1483, SM83: Ta4 outcrops on US-93 at Warm Springs Summit.
CS3	S31	11270+00	11500+00	42 – 43	Workman et al, 2002a	Stone Cabin Valley to Cactus Flat. The rail corridor trends easterly across basin-lowland topography ranging from an alluvial plain to gullied depressions in the plain. Grass covers the alluvial plain, whereas shrubs grow in depressions.	The rail corridor alternately traverses an alluvial plain underlain by young Quaternary (Holocene to late Pleistocene) valley floor alluvium (Qay) and gullied depressions in the plain underlain by young Quaternary (Holocene to latest Pleistocene) fine-grained alluvial sediments (Qayf). Depth to water in four wells located in the area ranges from 79 to 112 ft.	Young Quaternary fine-grained alluvium (Qayf): at wpt SM67, SANDY to CLAYEY SILT (ML), very stiff to hard, tan to reddish-brown, surface desiccated and covered with patches of loose, fine gravel; Young Quaternary alluvium (Qay): at wpt SM65, slightly silty, slightly gravelly SAND (SP), medium-dense, reddish-brown, moist.	Not applicable	1410-1411, SM65: view E of Cactus Flat and Kawich Range; 1412-1413, SM65: view W of Cactus Flat and Monitor Hills; 1414-1415, SM66: view W of Cactus Flat; 1416-1417, SM66: view ENE of Cactus Flat and Kawich Range; 1418, SM67: view W of Cactus Flat; 1419-1420, SM67: view NE of Cactus Flat and Kawich Range

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CS3	S32	11500+00	12255+00	43 – 45	Workman et al, 2002a	Cactus Flat through lower end of Ralston Valley to Mud Lake basin. In Cactus Flat, grass covers the alluvial plain, whereas shrubs grow in depressions. The route trends westerly across basin lowland topography, an alluvial plain dissected by numerous gullies and washes.	In western Cactus Flat, where numerous shallow, braided channels are incised into a depression in the valley floor, the corridor traverses young Quaternary (Holocene to latest Pleistocene) fine-grained sediments (Qayf). Depth to water in four wells located in Cactus Flat ranges from 79 to 112 ft. From Cactus Flat south of the Monitor Hills to eastern Ralston Valley, the corridor traverses young Quaternary (Holocene to late Pleistocene) valley floor alluvium (Qay). At the end of this segment, the rail corridor traverses an apron of young Quaternary (Holocene to latest Pleistocene) fine-grained sediments (Qayf) that extend north and east from Mud Lake Playa.	Young Quaternary fine-grained alluvium (Qayf): at wpts SM59 and SM64, slightly clayey to clayey SILT (ML), stiff to very stiff, light-brown, surface desiccated and covered with patches of loose, eolian, medium to coarse-grained sand and fine gravel; Young Quaternary alluvium (Qay): varies from wet, medium-dense, reddish-brown, slightly gravelly, slightly silty, fine-medium-grained SAND (SP) at wpt SM63 to dense, reddish-brown, SANDY SILT (ML) covered with patches of loose, eolian medium to coarse sand and fine gravel at wpt SM61.	Not applicable	1391-1392, SM59: view E of Ralston Valley; 1393-1394, SM59: view W of Ralston Valley; 1395, SM59: excavated Qayf; 1396-1398, SM60: view S of Mud Lake playa; 1399-1400, SM61: view W of Ralston Valley; 1401-1402, SM61: view E of Ralston Valley; 1403, SM62: Qay outcrop; 1404-1405, SM63: views W and E in Ralston Valley; 0068, nr SM63: view south of well in Ralston Valley; 1406-1407, SM64, view W of Cactus Flat and Monitor Hills; 1408-1409, SM64: view E of Cactus Flat; 0071, nr SM64: view S of well in Cactus Flat
GF1, GF3, and CS3	S33	12255+00	12675+00	45 – 47	Bonham and Garside, 1979; Workman et al, 2002a	Mud Lake basin to northern Goldfield Hills. This segment starts in low topography bordering the NW corner of the circular Mud Lake playa and ascends into the Goldfield Hills. The northern Goldfield Hills are a rocky, gently north-sloping plateau. Several washes are incised into the plateau.	This segment begins by crossing late Quaternary (Holocene and late Pleistocene) mixed dune and playa sediments (Qayf) and continues to Station 12295+00. Adjacent to the NW corner of Mud Lake playa, the alignment crosses mostly young and old Quaternary fan and pediment deposits (Qay and Qao). Hills composed of Quaternary-Tertiary Basalt (QTb) or Tertiary rhyolite or Siebert Tuff (Tsy) overlain by QTb rise above the playa-apron in places. At the transition from Mud Lake basin to the North Goldfield Hills, two remnants of an Early Miocene rhyodacite lava flow (in unit Ta3) crop out. In the northern Goldfield Hills, outcrops generally are sparse. Colluvium, young Quaternary (Holocene and late Pleistocene) wash alluvium (Qay), and old Quaternary (Pleistocene) pediment alluvium (Qao)cover to shallow depths what is believed to be mostly Quaternary-Tertiary basalt (QTb) and early Miocene silicic tuff (Tt3). Hills capped with QTb and underlain by Tt3 were observed in several places.	Young Quaternary alluvium (Qay): see S42; Young Quaternary mixed dune and playa deposits (Qayf): at SM349, very stiff, yellowish-brown, SANDY CLAY (CL): tan, desiccated surface covered with patches of gravel; between small to la unvegetated areas are mounds of eolian sand stabilized by shrubs; Old Quaternary alluvium (Qao): see S42; Quaternary-Tertiary basalt (QTb): at SM350, 352A & B, BASALT: high to very high strength, dark-gray, finely crystalline, sparse la phenocrysts, locally auto-brecciated, columnar-jointed, closely to widely spaced fractures; Siebert Tuff (Tsy): no site specific description; see Table 3 for general description; Early Miocene silicic tuff (Tt3): at SM352A, RHYODACITE? ASH-FLOW TUFF: high to very high strength, light-gray, moderately welded, breaks readily perpendicular to foliation planes spaced 1-4 inches apart, closely to medium-spaced fractures; Early Miocene lava flows and intrusives of intermediate composition (Ta3): at SM351, RHYODACITE LAVA FLOW: very high strength, dark-gray, porphyritic, closely to widely spaced fractures, weathers to rounded knobs.	QTb at SM352A: N80^{0}W, 84^{0}NE; N09^{0}E, 75^{0}SE	0133, NM43: thin QTb capping Tt3; 0134-0136, NM43: views south on alignment of QTb; 0137, NM45: silty, gravelly soil developed on QTb; 0138-0142, NM45: views N of Mud Lake basin; 0143, NM45: truck on alignment; 0144, NM45: view south of QTb-capped mesa; 1300-1306, SM49: views N & S of QTb-capped mesas and Mud Lake; 1313-1320, SM50: views NE to SE of Mud Lake playa; 656-660, SM349: Qayf in playa apron; 664-667, SM350: QTb hill; 668-674, pan NE to SE of Mud Lake; 676-678, SM 350: QTb dome; 679-682, SM350: pan W to NW of QTb dome & flows; 683, 691-692, SM351: Ta3 outcrop; 693-694, SM351: pan NE of Qay apron & Mud Lake; 700, SM352A: Qay; 701-704, SM352A: QTb & Tt3 outcrops; 710, SM353: Qao.

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GF1	S34	12675+00	12925+00	48 – 49	Cornwall, 1972; Workman et al, 2002a	Northern Goldfield Hills. The alignment ascends the northern Goldfield Hills, a rocky, gently north-sloping plateau that extends from the south rim of the Mud Lake basin. The plateau is dissected by wide, flat-bottomed washes, some of which are ~100 ft across.	North of about Station 12735+00, Pleistocene (?) alluvium (Qao) conceals the underlying volcanic rocks. Early Miocene ash-flow tuff (in unit Tt3) is exposed along the alignment between Station 12735+00 and the south end of the segment. At the south end of the segment, welded tuff (also in Tt3) underlies 10-20 ft of Quaternary-Tertiary basalt (QTb) in hills flanking the alignment. Washes filled with Holocene alluvium (Qay) are incised into the volcanic rocks along the entire segment.	Young Quaternary alluvium (Qay): at SM352A, dense, brown, slightly silty, gravelly, fine to medium-grained SAND (SP) with scattered cobbles; Old Quaternary alluvium (Qao): at SM353, loose to medium dense, reddish-brown, slightly gravelly to gravelly, fine- to coarse-grained SAND (SP) and SILTY SAND (SP-SM) with thin intervals of dense to very dense, white, carbonate-cemented, gravelly sand (CALCRETE); Quaternary-Tertiary colluvium (QTc): typically consists of boulders and cobbles of volcanic rock in loose silty sand or sandy silt; Quaternary-Tertiary basalt (QTb): at SM352A & B, BASALT: high to very high strength, dark-gray, finely crystalline, sparse la phenocrysts, locally auto-brecciated, columnar-jointed, medium to widely spaced fractures; Early Miocene-Oligocene silicic to intermediate ash-flow tuff (Tt3): at and near wpt NM41, Andesitic (?) ASH-FLOW TUFF: very high strength, gray, densely welded; at and near wpt AG39, Dacitic or andesitic ASH-FLOW TUFF: very high strength, dark gray, up to 50% phenocrysts, fine-grained matrix; closely to widely-spaced fractures; fresh to slightly weathered.	No data	0125, NM40: view NE between basalt-capped hills flanking the alignment; 0126, NM41: view NW of Goldfield Hills and Mud Lake basin (truck on alignment); 0127-0130: views south of hills underlain by welded tuff and capped with basalt; 0131-0132, NM42: views NW to W of Mud Lake basin and Goldfield Hills; 0133, NM43: thin basalt capping tuff; 0134-0136, NM43: views south on alignment of basalt; MG118-119, AG38; A0053-56, AG39.

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GF1	S35	12925+00	13120+00	49 – 50	Albers and Stewart, 1972; Cornwall, 1972; Workman et al, 2002a	Goldfield Hills. The alignment crosses a plateau frequently incised with shallow washes. The plateau is underlain by hydrothermally altered Tertiary volcanic rocks. From the plateau, the segment ascends into the Goldfield Hills.	The alignment crosses terrain underlain by progressively younger Tertiary volcanic rocks as it trends southerly away from the center of the Goldfield mining district. Two northeast-trending faults were identified near the northern end of this segment, where the Milltown Andesite (part of unit Ta3) is in contact with early Miocene to Oligocene welded tuff (Tt3) and capped by Quaternary-Tertiary basalt (QTb). Towards the end of the segment, the alignment traverses the hydrothermally altered dacite at Goldfield (in unit Ta3). Near Station 13040+00, the corridor crosses a contact between the dacite at Goldfield and the Milltown Andesite (both units in Ta3). The Milltown Andesite shows much less hydrothermal alteration and contains fewer mines than the dacite. Several W to NW trending washes filled with Holocene alluvium are incised into the volcanic rocks. Northeasterly and northwesterly trending faults align with many of the mines that abound in this geologic unit. Two such faults, which were identified during field reconnaissance along the corridor, strike N55^{0}W and dip 72^0 SW.	Young Quaternary alluvium (Qay): loose to dense, light brown to gray GRAVELLY SAND (SP) and SILTY SANDY GRAVEL (GP); Quaternary-Tertiary basalt (QTb): BASALT: very high strength, dark gray to black, up to 100 ft thick; Quaternary-Tertiary Colluvium (QTc): Medium dense to dense, brown SILTY SAND (SM); Early Miocene lava flows of intermediate composition, Dacite at Goldfield (Ta3): RHYODACITE to DACITE LAVA FLOWS, up to 700 ft thick, with tuff and some intrusive bodies: very high strength to low strength where very sheared and hydrothermally altered, as at wpt SM46; Early Miocene lava flows of intermediate composition, Milltown Andesite (Ta3): ANDESITE LAVA FLOWS, 600-800 ft thick, with tuff and some intrusive bodies: black to light gray; Early Miocene silicic to intermediate ash-flow tuff (Tt3): at wpt NM41: ANDESITIC (?) ASH-FLOW TUFF: very high strength, gray, densely welded.	No data	0119, NM38: view SE of Ta3 hills; 0122, NM39: view south towards alignment; 0123, NM39: view north; east of alignment; 0124, NM40: view SW towards alignment; 0125, NM40: view NE between basalt-capped hills along the alignment; 1321, about one mile W of NM40: adits and prospects in Ta3 at Black Butte; 1293-1295, SM46: old RR cut through variably sheared and hydrothermally altered Ta3; 1296-1297, wpt SM47: old RR cut through highly sheared, hydrothermally altered Ta3; 1298-1299, SM48: fill slope in old RR grade through Ta3.
GF1	S36	13120+00	13290+00	50	Cornwall, 1972; Workman et al, 2002a	Goldfield Hills. The alignment compensates for the difficult grades by making 1.5 S-turns through relatively low hills underlain by Tertiary volcanic rocks. Numerous mines, prospects, and tailings piles are present along the alignment. Several la (~200-250-ft-deep) washes cross the alignment.	This segment is entirely on early Miocene lava flows and intrusives of dacitic to andesitic composition (Ta3), except in washes, where Holocene alluvium (Qay) is present. Most of the gold and silver deposits in the Goldfield mining district were mined from these lava flows, which have undergone extensive hydrothermal alteration. Along most of this segment, la areas of soft, clayey soil envelope knobs of resistant, silicified rock. Two minor northwest-trending faults are shown on the regional-scale map of Cornwall (1972), but zones of hydrothermal alteration, mines, and prospects tend to be aligned along northeasterly axes, which possibly are faults. One such fault was identified during field reconnaissance in the vicinity of waypoints NM36 and NM37.	Young Quaternary alluvium (Qay): variable proportions of gravel, sand, and silt (not sampled); Early Miocene lava flows and intrusives of intermediate composition (Ta3): South of 13260+00 (includes wpts NM30-31): black to light gray ANDESITE LAVA FLOWS and subordinate ANDESITIC TUFF, 600-800 ft thick, with some intrusive bodies, commonly altered moderately to intensely to chlorite and sericite; north of 13260+00, including wpts NM36-37: primarily RHYODACITE to DACITE LAVA FLOWS, up to 700 ft thick, with tuff and some intrusive bodies, high strength, dark gray, brown, and black, crudely bedded, medium-spaced, blocky fractures, extensive hydrothermal alteration to loose/soft, yellow-orange, clayey colluvium interspersed with fins and knobs of resistant rock.	No data	0097, NM30: prospect pit in hydrothermally altered Ta3, showing fissure veins and gouge; 0099, NM31: view N of Goldfield Hills; 0100: view S to gap in hills; 0101: view N to gap in hills; 0112-0113: views south of N end of segment; 0114: view SW towards alignment; 0115, NM37: view S along the alignment; 0117, NM37: view NW along the alignment to a pass in the hills; 0119, wpt NM38: view SE along the alignment back to the pass in the hills.

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SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

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GF1	S37	13290+00	13510+00	50 – 51	Cornwall, 1972; Workman et al, 2002a	Southern Goldfield Hills. The gently sloping terrain in this segment is underlain by Tertiary volcanic rocks on the south flank of the Goldfield Hills. Southeast trending washes are incised into the volcanic rocks. The alignment compensates by making an S-turn. Several la washes cross the alignment.	Along the northernmost part of the segment, the alignment crosses early Miocene andesite lava flows (Ta3) that have been hydrothermally altered and are covered mostly by clayey colluvium. Southward to approximate Station 13465+00, the alignment mostly crosses early Miocene rhyolitic to rhyodacitic tuffaceous rocks (Tt3). La areas of the tuff are covered by thin pediment deposits, which are inferred to be old Quaternary (early to middle Pleistocene) in age (Qao). Throughout the segment, southeast trending washes containing Holocene alluvium (Qay) are incised into the volcanic rocks. Toward the end of the segment the alignment crosses the late Miocene Tuff of Stonewall Flat (Tst).	Young Quaternary alluvium (Qay): variable proportions of gravel, sand, and silt (not sampled); Old Quaternary pediment deposits (Qao): at SM360, Silty GRAVELLY SAND (SP) with lenses of SANDY GRAVEL (GP): dense, grayish-brown, slightly indurated, sand predominantly coarse-grained; abundant cobbles and scattered boulders to 2-ft diameter, partly coated with calcium carbonate; well-developed desert pavement; Tuff of Stonewall Flat (Tst): at NM29, RHYOLITIC ASH-FLOW TUFF, very high strength, light-gray and brick-red, nonwelded to densely welded, slabby to thickly bedded, closely to widely spaced fractures; Early Miocene tuff (Tt3): at SM52 and nr SM53, RHYOLITIC TO RHYODACITIC ASH-FLOW TUFF: moderate to high-strength(?), light-gray, pinkish-gray, brown, and black, nonwelded to densely welded, locally vitrophyric in part lithic-rich, close to medium-spaced fractures; Early Miocene lava flows and intrusives of intermediate composition (Ta3): ANDESITE LAVA FLOWS, very high strength, decreasing to very low strength, as at NM31, where rock is oxidized, hydrothermally altered, and covered to a shallow depth with silty clay colluvium.	No data	0091-0092, wpt NM29: views N along alignment; 1334-1336, SM53: views SE of old RR cut in Ta3; 1331-1333, wpt SM52: views S of old RR cut and fill in Tt3; 1329-1330, wpt SM52: views N of Blackcap Mt and alignment; 0098, wpt NM31: view S along alignment to Stonewall Mt; 0099, wpt NM31: view N along alignment to Goldfield Hills.

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BC3, CS4, and GF1	S38	13510+00	14490+00	51 – 52; 56 – 58	Cornwall, 1972; Workman et al, 2002a	Goldfield Hills, Stonewall Flat, and Lida Valley. From Goldfield Hills the alignment gradually descends an alluvial fan that slopes SE toward the ghost town of Ralston. From there, the alignment follows the low topography of the laterally continuous Stonewall Flat before ascending an alluvial fan from the Alkali Flat playa toward Lida Valley.	The segment begins on outcrops of the Tuff of Stonewall Flat (Tst). Descending south into Stonewall Flat, old Quaternary (late to middle Pleistocene) fan alluvium (Qao) underlies a majority of the segment. In Stonewall Flat, a graben formed, in part, by the NE-trending Stonewall Mountain Fault, the corridor crosses fan and stream-channel alluvium (Qc), and also skirts a small outcrop of the Rhyolite of Stonewall Mountain (Tvr). The alignment mostly traverses young Quaternary (Holocene to latest Pleistocene) fan alluvium (Qay) after emerging from Stonewall Flat. Near the end of the segment, the alignment crosses a small Quaternary playa deposit (Qp) in Alkali Flat.	Quaternary Playa sediments (Qp): very stiff, light-brown, CLAYEY SILT (ML), weathers to a desiccated surface; Young Quaternary alluvium (Qay, Qc): at SM36, loose, light-brown, silty SANDY GRAVEL (GP) with cobbles and sparse boulders, weathers to a fine gravel soil; at SM38, on Stonewall Mt alluvial fan, medium dense, light-brown, sandy, SILTY GRAVEL (GM) with abundant cobbles and boulders to 3-ft diameter; Old Quaternary alluvium (Qao): at SM54, silty, GRAVELLY SAND (SP) with cobbles and sparse boulders; Tuff of Stonewall Flat (Tst): at NM29, ASH-FLOW TUFF, very high strength, light-gray and brick-red, nonwelded to densely welded, rhyolitic, slabby to thickly bedded, closely to widely spaced fractures; Rhyolite of Stonewall Mountain (Tvr): RHYOLITIC ASH-FLOW TUFF, gray to reddish-brown, densely welded (not visited).	No data	1245-1247, SM35: views NW of old RR grade in Lida Valley; 1248-1250, SM35: views SE of Lida Valley; 1261-1265, 1269, SM37: views NNE of Avail Flat playa; 1266-1268, SM37: views SSW of old RR grade through Lida Valley; 1270-1275, SM38, views N-S of Stonewall Mtn. alluvial fan; 1345: Ralston (ghost town); 1344, SM56: view S of old RR grade on Goldfield Hills alluvial fan; 1339-1341, SM55: views S of Stonewall Mtn. and Stonewall Flat; 1343, SM55: view N of old RR grade on Goldfield Hills alluvial fan; 1337-1338, SM54: views S of old RR cut in Goldfield Hills alluvial fan; 0091, NM29: view N along alignment.

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CS5 and BC3	S47	14490+00	15590+00	58 – 62	Slate et al, 1999; Workman et al, 2002a	Lida Valley to Upper Sarcobatus Flat. At the beginning of the segment, the alignment ascends a north-sloping alluvial fan into Lida Valley. After leaving Lida Valley, the segment climbs a south-sloping alluvial fan. At the crest of the alluvial fan the alignment crosses outcrops of volcanic rock. The alignment descends SE toward Scotty's Junction while crossing several washes descending S to SSW from Pahute Mesa. From Scotty's Junction, the alignment stays on SW-sloping alluvial fans bordering the west side of Pahute Mesa. Tolicha Wash is incised about 25 ft into one of these fans. This segment ends in Sarcobatus Flat at the head of an alluvial fan north of Coba Mountain.	Just east of the northern end of the segment, the Timber Mountain Group (Tm) is cut by several diversely oriented faults. This segment is dominated by alluvial fans of Holocene to Pliocene age (QTau), which descend from Pahute Mesa and other upland areas. The fans are moderately dissected, with the deepest and widest incision occurring at Tolicha Wash. Tolicha wash is filled with Holocene stream channel and floodplain deposits (Qc). Tertiary volcanic rocks are exposed on both ends of the segment. The volcanic rocks include the Miocene Basalt of Black Mountain (QTb) and tuff of the Timber Mountain Group (Tm).	Alluvium (Qay, QTau): in general, loose to dense, light-brown, silty, SANDY GRAVEL (GP) with cobbles and sparse to common boulders; in Tolicha Wash, tan, desiccated SILT (ML) occurs between channels containing medium dense, slightly silty, SANDY GRAVEL (GP) with cobbles and boulders up to 3-ft diameter; Basalt of Black Mountain (QTb): BASALT: very high strength, dark-gray, very vesicular, amygdaloidal, medium to widely spaced fractures, locally calcite-cemented breccia; Timber Mountain Group (Tm): at SM31, TRACHYTIC ASH-FLOW TUFF: very high strength, purplish-gray, densely welded, flow-banded, very closely to closely fractured, oriented N21^{0}E, 25^{0}SE; at SM34, appears to be interlayered ledge-forming, densely welded ASH-FLOW TUFF and slope-forming nonwelded ASH-FLOW TUFF, which are offset by faults; at SM36, ASH-FLOW TUFF is medium-high strength, light-gray, nonwelded to partially welded, fractured, slightly weathered; Quaternary stream channel alluvium and floodplain deposits (Qc): At SM32, tan, SILT (ML) between gravel (GW) channels; dry.	QTb at SM30A: N16^{0}E, 86^{0}SE; North, 77^{0}W; low-angle set (not measured); Tm at SM31: N18^{0}W, 75^{0}NE, stepped, medium to widely spaced; N55^{0}E, 60^{0}SE, rough, close to medium spaced; N30^{0}E, 45^{0}NW, planar, very closely spaced.	1196-1198, SM29: views NW of ridge underlain by QTb & Tm; 1199-1201, SM29: views SE of Qay in Sarcobatus Flat; 1202, SM29: view S of Coba Mt; 1203-1205, SM30: views NW of QTb/Tm ridge; 727, SM30A: QTb basalt breccia; 729, SM30A: QTb basalt; 1208-1210, SM31: Tm outcrop; 1211-1214, SM31: views SE of Sarcobatus Flat & Coba Mt; 1215-1217, SM31: views NW of Tm outcrops & Sarcobatus Flat; 1218-1231, SM32: views of Tolicha Wash area; 1232-1238, SM33: gravel pit in alluvial fan incised by Tolicha Wash; 1239-1242, SM34: views NE of Tm in ridge with planned 50-ft cut; 1251-1255, SM35: views SE of Lida Valley; 1256-1260, SM36: old RR cut through Qay and Tm.

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OV1 and CS5	S51	15590+00	16285+00	62 – 64	Slate et al, 1999	Coba Mountain southeast to Oasis Valley. The segment crosses a straight stretch of alluvial sediments before descending into a closed depression, which contains a playa. Emerging from the playa, the alignment returns to the alluvial sediments before skirting along the south side of a S to SSW sloping alluvial fan. This segment ends in Oasis Valley, in the headwater region of a tributary of the Amargosa River, where an alluvial fan sloping NE from Oasis Mountain me with an alluvial fan sloping south from Pahute Mesa.	Near the beginning of the segment, Eolian deposits (Qe) flank Coba Mountain, which is formed by Quaternary-Tertiary basalt flows (QTb). In Sarcobatus Flat, the corridor mostly crosses young Quaternary (Holocene) alluvium (Qay) veneering an older alluvial fan (Qam) that slopes SW from Pahute Mesa. Locally in Sarcobatus Flat, the corridor crosses closed depressions filled with eolian deposits (Qe) and playa sediments (Qp) of Holocene age. From west of the divide between Oasis Valley and Sarcobatus Flat (at about 16120+00) to the end of this segment the alignment traverses younger Tertiary sedimentary rocks (Tsy), except in and adjacent to washes, where Holocene to Pliocene alluvium (Qay) is present.	Quaternary eolian deposits (Qe): SILTY SAND (SM), loose, pale yellowish-brown to light-gray, fine to medium-grained, locally contains gravel and cobbles; Quaternary playa sediments (Qp): at SM28, CLAYEY SILT (ML), stiff to very stiff, tan, hard, surface desiccated and locally covered with windblown, fine to medium-grained sand and fine gravel; Young Quaternary alluvium (Qay): at SM26, loose, light-brown, sandy, SILTY GRAVEL (GM); Quaternary-Tertiary alluvium (Qam, QTau): at SM24, loose, light-brown, gravelly, SILTY SAND (SM) with scattered cobbles; Younger Tertiary sedimentary rocks (Tsy): GRAVELLY SANDSTONE: moderate strength, tan, medium-grained, thin to thick-bedded, very closely jointed, easily erodable.	No data	1162-1165, SM24: pan E to S of Oasis Valley; 1166-1168, SM24: views NW into Sarcobatus Flat; 1169-1171,SM25: views NNW of Sarcobatus Flat and adjacent hills; 1172-1175: SM25, views SE of Oasis Valley and adjacent butte; 1176-1178, SM26: views NW of Sarcobatus Flat and Pahute Mesa; 1179-1182, SM26: views SE of Oasis Valley-Sarcobatus Flat divide; 1183-1189, SM27: views NE of Sarcobatus Flat and Pahute Mesa; 1190-1191, SM28: views SE of Sarcobatus Flat; 1192-1195, SM28: views NW of Sarcobatus Flat playa and Coba Mt; 1211-1214, SM29: views SE of Coba Mt and lower Sarcobatus Flat.
OV1	S52	16285+00	16450+00	64 - 65	Slate et al, 1999	Oasis Valley and Amargosa River crossing. The numerous, braided channels of the ephemeral Amargosa River form a broad valley, vegetated with riparian shrubs. The channels are incised into Tertiary sedimentary and volcanic rocks, which form benches with low breaks. Numerous springs are mapped less than 0.5 mile west of the rail corridor from SM17 to SM20, and others could occur closer seasonally.	In the northern portion of the segment, the Amargosa River valley is primarily underlain by Quaternary stream-channel and floodplain sediments (Qc), which are locally covered by Holocene eolian deposits (Qe). The Amargosa River alluvium is incised into the Volcanics of Fortymile Wash (Tfv) on the north banks, and into younger Tertiary sedimentary rocks (Tsy) on the south bank. The volcanic rocks locally are covered by colluvium (QTc). Where skirted by the alignment, the volcanic rocks have a foliation that strikes N 3^0E and dips 15^0 SE. Several N to NNE-trending faults offset the Volcanics of Fortymile Wash (Tfv). A NNE-trending fault, which is partly concealed by alluvium, cuts the Tertiary sedimentary rocks near Station 16440+00. The southern portion of this segment crosses Quaternary alluvium (Qay, Qam) in washes which are incised into young Tertiary sedimentary rocks (Tsy).	Quaternary eolian deposits (Qe): SILTY SAND (SM): loose, pale yellowish-brown to light-gray, fine to medium-grained, with gravel pavement; Quaternary alluvium (Qc, Qay, Qam): Loose to medium dense, light-brown, gravelly, SILTY SAND (SM) and SANDY SILT (ML) with scattered cobbles and, loose to medium dense, brown, silty, SANDY GRAVEL (GP) in stream beds; Quaternary-Tertiary colluvium (QTc): (not sampled) typically consists of boulders and cobbles of bedrock in loose silty sand or sandy silt; Younger Tertiary sedimentary rocks (Tsy): GRAVELLY SANDSTONE and CONGLOMERATE, moderate to medium-high strength, light-tan, light-gray, and light-orange, poorly to moderately-well bedded, easily erodable; Volcanics of Fortymile Wash (Tfv): Gray, brown, purple, and red, densely welded ASH-FLOW TUFF and RHYODACITE LAVA FLOWS.	No data	1111-1113, SM15: views NW of Amargosa R. valley and Pahute Mesa; 1114-1117, SM15: views SE of Oasis Valley and Bare Mt; 1384-1386, SM57: of Amargosa R.; 1387, SM58: of Amargosa R.; 1388, SM58 Amargosa R. channel alluvium; 1389-1390, SM58: views of Amargosa R.; 1124-1129, SM17, views NW and SE of Amargosa R. valley; 1130-1135, SM18: views NW and SE of Oasis Valley; 1136-1141, SM19: views NW and SE of Oasis Valley; 1142-1143, SM20, views SE of Oasis Valley; 1145-1151, SM21: views NW and SE of Oasis V.

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CS6	S53	16450+00	16600+00	65	Carr et al, 1996; Slate et al, 1999	In lower Oasis Valley, south of the Amargosa River, the alignment traverses low, hummocky topography incised by several southeasterly draining washes.	The alignment alternately traverses younger Tertiary sedimentary rocks (Tsy) incised by young and middle Quaternary alluvium (Qay and Qam) and Quaternary-Tertiary alluvium (QTau). Bedrock is likely just below surface near the start of the segment, and greater than 15 ft below surface near the beginning of the segment.	Quaternary-Tertiary alluvium (QTau): Loose to medium dense, light-brown, gravelly SILTY SAND (SM) and SANDY SILT (ML) with scattered cobbles; silty sand locally blown by wind into low, vegetated mounds separated by gravel pavement; Younger Tertiary sedimentary rocks (Tsy): GRAVELLY SANDSTONE and CONGLOMERATE, moderate to medium high strength, light-tan, light-gray, and light-orange, variable proportions of gravel to boulder-sized clasts in silty sand matrix, poorly to moderately-well bedded, easily erodable. Near northern end of this segment, sandstone predominates; it is moderate strength, tan, medium-grained, very closely jointed, thin to thick-bedded; Young Quaternary alluvium (Qay): No site specific description; see Table 3 for general description; Middle Quaternary alluvium (Qam): At SM22, Loose, light-brown, slightly sandy, gravelly SILT (ML) and silty SAND (SM) with scattered cobbles; silty sand locally blown by wind into low, vegetated mounds separated by gravel pavement (very similar to Qtau as described above).	No data	1101-1105, wpt SM14: views SE of Oasis Valley and Bare Mountain; 1106-1108, wpt SM14: views NW of Oasis Valley terrain; 1109, Ute Spring Wash: Tsy, conglomerate channel eroded into sandstone; 1110, Ute Spring Wash near US-95: wild burro and QTau; 1152-1155, wpt SM22: views E to SE of Oasis Valley; 1156-1158, wpt SM23: views SE of Oasis Valley; 1159-1161, wpt SM23: views NW of Oasis Valley.

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CS6	S56	16600+00	16700+00	65 – 66	Carr et al, 1996; Slate et al, 1999	Oasis Valley. The rail corridor in this segment crosses low, hummocky topography in lower Oasis Valley in the area north of Beatty Wash.	As the segment moves southward, it traverses mostly younger Tertiary sedimentary rocks (Tsy). Relatively thin patches of undifferentiated Quaternary-Tertiary alluvium (QTau and Qay) locally cover the younger Tertiary sedimentary rocks. Towards the south end, the alignment crosses the Ammonia Tanks and Rainier Mesa Tuffs of the Timber Mountain Group.	Undifferentiated Quaternary-Tertiary Alluvium (QTau and Qay): loose, tan to light brown, slightly silty, SANDY GRAVEL (GP) with cobbles and boulders and slightly silty GRAVELLY SAND (SP); At SM22, Loose, light-brown, slightly sandy, gravelly SILT (ML) and silty SAND (SM) with scattered cobbles; silty sand locally blown by wind into low, vegetated mounds separated by gravel pavement; Younger Tertiary sedimentary rocks (Tsy): GRAVELLY SANDSTONE and CONGLOMERATE: moderate to medium high strength, light-tan, light-gray, and light orange, poorly to moderately sorted (variable proportions of gravel to boulder-sized clasts in a slightly silty sand matrix), thin to massively bedded, closely jointed, erodes easily to gravelly sand and sandy gravel; Ammonia Tanks and Rainier Mesa Tuffs (Tmar): medium-high strength, salmon-pink to white, nonwelded to densely welded, closely spaced fractures.	See S57, NM19-20	1099-1100, wpts NM19-NM20: Timber Mountain Group exposed on north side of Beatty Wash; 1101-1105, wpt SM14: views SE of south end of Oasis Valley, Tram Ridge, and Bare Mountain.

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CS6	S57	16700+00	16820+00	66	Carr et al, 1996; Slate et al, 1999	Beatty Wash and Tram Ridge. The generally SSE-trending alignment crosses Beatty Wash and ascends steeply to Tram Ridge, following or crossing narrow canyons eroded into faulted Miocene volcanic rocks.	The alignment skirts Tertiary caldera-moat-filling sedimentary rocks (Tsy) on the south bank of Beatty Wash. Holocene alluvium (Qc) fills the depression occupied by the wash. Near NM22, foliation and bedding strike N 25^0 E to N 20^0 W and dip westerly 15-40^0. Paintbrush Group (Tp) tuff in this fault zone has been heavily oxidized. The easternmost of these faults strikes an average N30^{0}E and contains very fractured, oxidized breccia and disturbed blocks of sheared, unaltered tuff in a zone about 150 ft wide. Faulting has disturbed the orientation of the tuffs in this segment. The Timber Mountain (Tmar, Tmrf), Paintbrush (Tp), Crater Flat (Tc), and Tram Ridge (Tr) Groups are extremely faulted. Three intersecting E to NE-striking, high-angle faults cross the alignment in the vicinity of 16790+00 (wpts SM12, SM13, and NM27).	Quaternary channel and floodplain deposits in Beatty Wash (Qc): silty SANDY GRAVEL and silty GRAVELLY SAND; Tertiary caldera-moat-filling sedimentary rocks (Tsy): poorly to moderately consolidated, poorly to moderately well-bedded CONGLOMERATE, SANDSTONE, and SILTSTONE; Rhyolite of Fluorspar Canyon (Tmrf): ASH-FLOW TUFF: medium-high strength, white to salmon-pink, nonwelded to partially welded, closely spaced fracturing, slightly weathered; Ammonia Tanks and Rainier Mesa Tuffs (Tmar): ASH FLOW TUFF: medium-high strength, salmon-pink to white, nonwelded to densely welded, closely spaced fractures; Paintbrush Group (Tp): ASH-FLOW TUFF: moderate to very high strength, gray, purple, red, orange, and brown, nonwelded to densely welded, moderately vesicular (sparse to 15% lithophysal cavities); close to medium-spaced fractures, slightly weathered; at SM12, FAULT BRECCIA: moderate to high strength, red to reddish-orange, highly indurated, very closely spaced, randomly oriented fractures, very weathered.	Tmrf at NM19 & 20: N42^{0}E, 86^{0}SE; N20^{0}E, 33^{0}SE; N5^{0}E, 73^{0}SE; N30^{0}W, 66^{0}NE; N72^{0}W, 45^{0}SW; Tmrf at NM21: N30^{0}E, 65^{0}SE; N88^{0}E, 78^{0}NW; Tmrf at NM22: N52^{0}E, 51^{0}NW; N45^{0}E, 82^{0}SE; N75^{0}W, 24^{0}SW	1089, wpt SM12: Fault breccia and disturbed tuff block in fault zone; 1090, wpt SM12:fault breccia; 1091-1094, wpt SM13: views NW of Tram Ridge, Oasis Valley, & Pahute Mesa; 1095-1096, wpt SM13: views SE of Tram Ridge; 0055, 0065-0067, wpts NM19-20: views S of Tmar/Tmrf on S side of Beatty Wash; 0058-0059, wpt NM21: Tmrf outcrop on S side of Beatty Wash; 0060-0064, wpt NM21: views N of Tmar/Tmrf on N side of Beatty Wash; 0069-0070, 0072, wpts NM22-23: Tmrf outcrops; 0071, wpt NM22: Tmar/Tmrf in cliff face; 0073-0074, wpt NM24: views S of Tp; 0075-0077, wpt NM25: views N, Ts, Tmrf, and Tmar, Oasis Valley & Pahute Mesa; 0078-0079, wpt NM26: views N of Tp in cliffs, Oasis Valley, & Pahute Mesa; 0080, wpt NM27, view SE across faulted Tp in Tram Ridge to Crater Flat; 0081, wpt NM27: view NW of Tp outcrops in Tram Ridge.

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CS6	S58	16820+00	17020+00	66 – 67	Carr et al, 1996; Slate et al, 1999; Potter et al, 2002	Northern end of Crater Flat. Mostly trending SE across a SW sloping alluvial fan, the alignment traverses a few subdued outcrops of volcanic rock.	A majority of this segment crosses a slightly to moderately dissected, Holocene to early Pleistocene alluvial fan (Qam). Subdued outcrops of the Rhyolite of Fluorspar Canyon (Tmrf) are cut through or skirted by the alignment from 16920+00 to 16970+00. Two concealed, N-trending, down-to-the-west faults cross the alignment in the vicinity of these outcrops. Two NNE-trending high-angle faults cross the alignment near the northern end of the segment. East of these faults, old Quaternary fan alluvium (Qao) covers Miocene volcanic rocks. Between and to the west of the faults, the Rhyolite of Fluorspar Canyon (Tmrf), in part disturbed by landsliding (QTls), overlies tuff of the Paintbrush Group (Tp).	Alluvium (Qao, Qam): slightly silty SANDY GRAVEL (GP): medium dense, light-brown, abundant cobbles and scattered boulders; Rhyolite of Fluorspar Canyon (Tmrf): partly reworked ASH-FALL TUFF: low to moderate strength (friable), grayish-white and pink, thickly bedded, medium to widely spaced joints, slightly weathered, hydrothermally altered in vicinity of Bare Mountain Fault; Paintbrush Group (Tp): ASH-FLOW TUFF: high to very high strength, light-grayish-white to purplish-gray, moderately to densely welded; slightly vesicular (lithophysal); close to medium-spaced, smooth fractures, slightly weathered. A NNE trending zone of mines and prospects at 16830+00, in which tuff appears chalky white, and opaline chalcedony float is abundant, might be an unmapped fault related to the Bare Mountain Fault; Landslide deposits: at SM281 ash-flow tuff, low to medium-high strength, light gray (less than 10 percent diverse crystals, lithic-rich (diverse lithologies) coarse sand to gravel-size fragments), close- to medium-spaced, occasionally widely-spaced fractures.	No data	1076-1078: wpt SM9, views NW of Crater Flat and Tram Ridge; 1079-1081: wpt SM9, views SE across Crater Flat from Yucca Mt to Oasis Mt; 1082: wpt SM10 outcrop of Tmrf east of rail corridor; 1083-1085, wpt SM11: views west of Tram Ridge; 1086-1088, wpt SM11: views east of prospects in Bare Mountain Fault zone; 0022: view S of Crater Flat; 0023: view W from Crater Flat of volcanic rock outcrops on Tram Ridge.

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SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

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CS6	S59	17020+00	17550+00	67 – 69	Simonds et al, 1995; Carr et al, 1996; Potter et al, 2002	Crater Flat northwest of Solitario Canyon. The segment trends SE across a dissected SW to S sloping alluvial fan. At 17360+00 the alignment passes between Black Cone and an outcrop of Tp. Between 17420+00 and 17550+00, the rail corridor trends NW across a SW sloping alluvial fan. Numerous washes up to 12 ft deep cut the fan; many contain linear fault scarps in alluvium.	Miocene volcanic rocks covered by composite Holocene to early Pleistocene alluvial fans (Qay and Qam) underlie most of this segment. Fan alluvium, dominated by Qao, appears to be finer-grained (fewer boulders and cobbles) than in segment S58. A few outcrops of Paintbrush Group (Tp) tuff east of Black Cone and the Rhyolite of Fluorspar Canyon (Tmrf) appear mostly as subdued ridges between the beginning of the segment and Station 17420+00. Near 17400+00, the segment crosses an eolian deposit (Qe). The segment traverses numerous northerly trending faults, notably the Fatigue Wash and Windy Wash Faults. In general these faults are mostly concealed, and display down-to-the-west movement where exposed. The alignment crosses a fault bounding the west side of an outcrop of Paintbrush Group tuff (Tp) east of Black Cone. The fault strikes NNW and dips 70^0 SW. The Fatigue Wash Fault has an average dip of 73^0 W, with 235 ft of displacement and 7 ft of late Quaternary movement. The Windy Wash Fault has an average dip of 63^0 W, with about 1600 ft of displacement and 5.5-8 ft of late Quaternary movement. Fault scarps in alluvium, ~12 ft high, expose very dense, calcium-cemented conglomerate.	Quaternary Alluvium (Qay, Qam, Qao): silty, SANDY GRAVEL with cobbles and boulders, medium dense, gray to light-brown, GW-GM, 15-35(?) ft thick; underlain by dense CALCRETE up to 1.5 ft thick; covered by desert pavement and locally by eolian SILT and fine SAND up to 2 ft thick; Quaternary-Tertiary basalt (QTb): BASALT: dark gray to black, vesicular; and SCORIA; Paintbrush Group (Tp): ASH-FLOW TUFF: very high strength, purple, red, gray, and brown, moderately to densely welded (vitrophyric at bottom), moderately vesicular (sparse to 15% lithophysal cavities); close to medium-spaced fractures, slightly weathered; Rhyolite of Fluorspar Canyon (Tmrf): ASH-FALL TUFF, partly reworked: low to moderate strength (friable), grayish-white and pink, thickly bedded, medium to widely spaced joints, slightly weathered; Quaternary eolian deposits (Qe): (not sampled) typically SILTY SAND (SM): loose, fine to medium-grained, with gravel pavement.	No data.	1045-1046, views WNW of Black Cone from Fatigue Wash; 1047: wpt SM3, borehole USW WT-10; 1048-1050: wpt SM4, views W of Fatigue Wash Fault scarp in alluvium; 1051-1053, wpt SM5, views NW of Crater Flat; 1054-1056: wpt SM5, views SE of Solitario Canyon and Iron Ridge Faults; 1058-1063, wpt SM7, views NW of Black Cone and Crater Flat; 1064-1066, wpt SM7, views SE of Crater Flat and Yucca Mt; 1067, SE of Makani Cone, Nellis AF base boundary; 1068-1071, wpt SM8, views NW of Crater Flat; 1072-1074, wpt SM8, views SE of Crater Flat; 1075, east of wpt SM8, fault repeated outcrops of Tmrf

TABLE 5
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CS6	S60	17550+00	17750+00	69 – 70	Simonds et al, 1995; Potter et al, 2002	Solitario Canyon to Iron Ridge. Near the beginning of the segment, the alignment traverses a pass created by numerous intersecting splays of the Solitario Canyon Fault. Between 17600+00 and 17620+00, the corridor skirts the south end of two ridges bounded by steep fault scarps. The alignment trends SE across SW sloping alluvial fans bounded by north-trending ridges of Yucca Mountain. Eastward, the alignment climbs to a pass through the main part of Iron Ridge. The south end of Iron Ridge is flanked with eolian sand ramps. The segment ends on an alluvial fan flanking the south side of Iron Ridge, Yucca Mountain.	Eastward from the beginning of the segment, tuffs of the Paintbrush Group (Tp) are tilted, offset, and repeated by multiple splays of the Solitario Canyon and Iron Ridge Faults. Foliation in tuffs generally strikes NNE and dips 5 - 30^0 SE, but it is distorted in the Solitario Canyon Fault zone. Paintbrush Group tuff (Tp) foliation where the alignment crosses the main splay of the Solitario Canyon fault strikes N 33^0 W and dips 7^0 NE. The main fault splay of the Solitario Canyon Fault strikes N 25 - 45^0 E and dips as much as 85^0 NW across the rail corridor. Five splays strike NNW, and all but one of these dip steeply SW; the other splay dips to the NE. Most faults display down-to-the-west displacement. The main splay has >1600 ft of displacement on it; late Quaternary fault scarps in alluvium and bedrock locally show 0.3 - 6.5 ft of displacement. SW and SE sloping Holocene to Pleistocene alluvial fans (Qam and Qao) cover most of the surface area along this segment. At the end of the segment, Holocene to Pleistocene alluvial fans (Qay) slope south from Iron Ridge. Quaternary eolian sand ramps (Qe) overlay the proximal parts of the Iron Ridge alluvial fans.	Quaternary eolian sand ramps (Qe): at SM236 & 246, SAND (SP): loose to med.-dense, brown, fine to medium-grained, gravelly desert pavement; Alluvium (Qay, Qam, Qao): Silty, SANDY GRAVEL with cobbles and boulders, medium dense, gray to light-brown, GW-GM, 15-35 (?) feet thick; underlain by dense CALCRETE; covered by desert pavement and locally by eolian SILT and fine SAND; Paintbrush Group (Tp): ASH-FLOW TUFF: very high strength, purple, red, brown, and gray, moderately to densely welded (vitrophyric at bottom), moderately vesicular (sparse to 15% lithophysal cavities); close to medium-spaced fractures, slightly weathered; generally forms moderately steep to steep slopes.	No data.	1031-1034: waypoint SM1, panorama NW of Crater Flat and Bare Mt; 1035-1037: waypoint SM1, panorama SE of Solitario Canyon and Iron Ridge Faults; 1038-1041: waypoint SM2, panorama SE of Solitario Canyon Fault zone; 1042-1044: waypoint SM2, panorama NW of Crater Flat.

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CS6	S61	17750+00	18120+00	70 – 71	Simonds et al, 1995; Potter et al, 2002; Nye County Nuclear Waste Repository Project Office, 2005	Iron Ridge, Busted Butte east, and San Juan Hill. The segment begins on the southeast side of Iron Ridge, one of several ridges that make up Yucca Mountain. The route crosses a valley centered on WT-12 and Forlorn Washes before it curves around Busted Butte and Jackass Flats. The segment then curves toward the NE side of Busted Butte and onto Dune Wash. From Dune Wash the segment ascends a pass between Bow and Fran Ridges. The segment concludes as it skirts to the west of San Juan Hill.	Eolian sand ramps of Quaternary age (Qe) surround Bow Ridge, Busted Butte and flank the southern end of Iron Ridge. Middle to young Quaternary alluvium (Qam and Qay) fills the valleys of Dune, Fortymile, WT-12, and Forlorn Washes, flanks the southern end of Yucca Mountain, and underlies eolian deposits (Qe) at a shallow depth on the east side of Busted Butte. Most of the bedrock traversed by this segment belongs to the Paintbrush Group (Tp). The Rainier Mesa Tuff of the Timber Mountain Group underlies Rainier Ridge (Tm). The Calico Hills and Wahmonie Formations (Tac) crop out on the east side of Busted Butte. Orientations of foliation and fracturing in bedrock are influenced by prominent high-angle faults near the alignment. The NE to NW-striking, NW to SW-dipping Bow Ridge, Paintbrush Canyon, Forlorn Wash, and Iron Ridge Faults, and related faults, cross the alignment between Dune Wash and Yucca Mountain. The Busted Butte Fault zone dips NE to SE at angles of 66-83^0 beneath the alignment.	Quaternary eolian sand ramps (Qe): at SM236 & 246, SAND (SP): loose to med.-dense, brown, fine to medium-grained, gravelly desert pavement; Young Quaternary alluvium (Qay): at SM232 & 234, NM1-2, & well EWDP-18P: SANDY GRAVEL (GP), SILTY SANDY GRAVEL (GW-GM), & SILTY GRAVELLY SAND (SW-SM) in 5 to10-ft-thick intervals: loose to dense, brown, sub-angular to angular, gravel to boulder-sized clasts, fine to med.-grained sand; Middle Quaternary alluvium (Qam): at SM250, GRAVELLY SAND (SP) & SANDY GRAVEL (GP): loose to very dense, brown & gray, with beds of cobbles & boulders to 2 ft diameter; Rainier Mesa Tuff (Tm): at SM242, RHYOLITE ASH-FLOW TUFF: high strength, light-brownish-red, partially welded, lithic-rich, med. to widely spaced fractures; Paintbrush Group (Tp): at NM3; SM237, 247, & 249, RHYOLITE to RHYODACITE ASH-FLOW TUFF: very high strength, gray, purplish-gray, grayish-orange, & purplish-brown, densely welded, variably lithophysal (vesicular), closely to widely spaced fractures; locally contains vitrophyre, moderate to medium-high strength bedded tuff, & in fault zones; brecciated, shattered rock with gouge.	Tm at SM242: N30^{0}W, 86^{0}SW, dominant; N79^{0}W, 72^{0}SW, dips into alignment; Tp at SM247: N45^{0}W, 65^{0}SW, fault-controlled; Tp at NM3: N 70^0 W, 71^0 SW; N 0-10^0 W, 72-84^0 SW.	2729-2735, SM232: WT-12 Wash from Yucca Mountain. (YM) to Busted Butte, Qay in wash; 2750, SM236: Qe, SW Busted Butte; 2751-2755, SM237: Tp, Busted Butte; 2781-2783, SM241: pan SW from Busted Butte to Yucca Mt; 2784, 2788-2789, SM242: Tm outcrops at Rainier Ridge; 2785-2787, SM242: views NW of Bow and Fran Ridges; 2810-2812, SM246: pan NW of Rainier, Bow, and Fran Ridges; 2813, SM246: Busted Butte Qe ramp; 2814-2820, SM247: Tp in Paintbrush Canyon Fault zone; 2821-2835, SM248-249: topography between Dune Wash and Midway Valley; 2836, SM249: Tp, Bow Ridge; 2837-2839, SM250: Qam, Drill Hole Wash; 0005, nr NM2: view NE of Busted Butte and Jackass Flats: view W of Qay fan; 0010-0012, NM1: view N of Iron Ridge Fault zone; 0009, NM2: view NE of Tp outcrop; 0008, nr NM3: view SE of Tp bedded tuff; 0013, NM3: view SE of Tp outcrop.

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CS6	S62	18120+00	18192+88 (EOL)	71	Simonds et al, 1995; Day et al, 1998; Potter et al, 2002	Midway Valley. The rail corridor trends NNW as it enters the southern end of Midway Valley then bends NNE toward the ESF between San Juan Hill and Bow Ridge.	Midway Valley and Drill Hole Wash are filled with Middle Quaternary alluvium (Qam). To the south, valleys are mostly filled with Young Quaternary alluvium (Qay).	Quaternary eolian ramp deposits (Qe): at SM236 & 246, SAND (SP): loose to med. dense, brown, moist, fine to medium-grained; Young Quaternary alluvium (Qay): at SM232 & 234, SANDY GRAVEL (GP): loose to dense, brown, moist to moist, sub-angular to angular clasts in fine to medium-grained sand, cobble-boulder-gravel interbeds; Middle Quaternary alluvium (Qam): at SM250, GRAVELLY SAND (SP) and SANDY GRAVEL (GP): loose to very dense, brown and gray, locally moist, with beds of cobbles and boulders to 2 ft diameter; Rainier Mesa Tuff (Tm): at SM242-244, RHYOLITE ASH-FLOW TUFF: mod. to high strength, pink, light-brownish-red, & reddish-brown, non- to partially welded, crystal-poor, lithic-rich, closely to widely spaced fractures, basal bedded tuff oriented N 23^0 W, 30^0 NE; Paintbrush Group (Tp): at SM235, 237, 249, & 252, RHYOLITE to RHYODACITE ASH-FLOW TUFF: generally high to very high strength (low in fault zones, where shattered), gray, purplish-gray, grayish-orange, and purplish-brown, densely welded, variably lithophysal (vesicular), fractures generally closely to widely spaced.	Tm at M242: N30^0W, 86^0SW, dominant; N79^0W, 72^0SW, dips into alignment; Tp at SM247: N45^0W, 65^0SW, fault-controlled; Tp at SM252: N47^0W, 4^0NE, slabby, dominant; N49^0W, 84^0NE; N41^0E, 76^0SE	2729-2735, SM232: WT-12 Wash from Yucca Mt. (YM) to Busted Butte, Qay in wash; 2736, SM233: well WT#12 & YM; 2737-2738, SM234: Qay in WT-12 Wash; 2739-2747, SM234-235, Amargosa Desert to Busted Butte & YM; 2748-2749, SM235: Tpc, YM; 2750, SM236: Qe, SW Busted Butte; 2751-2755, SM237: Tpt, Busted Butte; 2756-2777, SM238-240: northern Midway Valley; 2778-2813, SM241-246: Dune Wash area, from Busted Butte & YM to Rainier, Bow, & Fran Ridges, with Tm & Tpc outcrops & Qe exposures; 2814-2820, SM247: Tpt in Paintbrush Canyon Fault zone; 2821-2835, SM248-249: topography between Dune Wash and Midway Valley; 2836, SM249: Tpc, Bow Ridge; 2837-2839, SM250: Qam, Drill Hole Wash; 2840-2852, SM251: northern Midway Valley with Tpc outcrop at N end of Fran Ridge.

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Eccles	S3	20000+00	20130+00	1	Tschanz and Pampeyan, 1970; Ekren et al, 1977; Rowley and Shroba, 1991	Dutch Flat to southern Miller Bench. After diverging from the existing UPRR tracks at Station 20000+00, the alignment skirts cliffs of volcanic rock on the northern margin of Dutch Flat. Near the end of the segment the alignment climbs out of Dutch Flat onto Miller Bench along a southerly flowing wash.	This segment mostly is on young Quaternary (Holocene to late Pleistocene?) floodplain alluvium (Qc) of Clover Creek and one of its tributary washes, but at its start and end, the segment crosses or skirts Tertiary rocks. At its approach to a planned bridge crossing of Clover Creek, the segment skirts an outcrop of Early Miocene silicic to intermediate ash-flow tuffs (Tt3). The Tertiary volcanic and sedimentary rocks form cliffs bordering Clover Creek at Eccles siding. At its end, the segment crosses Tertiary sedimentary rocks (Tsy), which were named the Conglomerate of Ash Canyon by Rowley and Shroba (1991).	Young Quaternary tributary alluvium (Qay): at SM202, SANDY GRAVEL (GP): loose, brown, generally fine gravel but some medium to coarse-sized clasts; overlain by slightly silty, fine-grained SAND (SP): medium-dense, light-brown, trace gravel; Young Quaternary Clover Creek floodplain alluvium (Qay): as exposed in a 5-ft-long section on the south bank of Clover Creek at SM205: interbedded loose to medium-dense, reddish-brown to brown, slightly gravelly to gravelly, coarse SAND (SP), with cobbles in some intervals, and medium-dense, brown, mostly medium to coarse, SANDY GRAVEL (GP) with cobbles; Tertiary sedimentary rocks (Tsy): medium-high to high strength, light-gray, moderately consolidated, medium-bedded SANDY CONGLOMERATE and CONGLOMERATIC SANDSTONE containing clasts up to 3-ft diameter; Early Miocene silicic to intermediate ash-flow and ash-fall tuff (Tt3): variable lithology, but on approach to Clover Creek at SM207: RHYODACITE? ASH-FLOW TUFF: high-strength, densely welded, brownish-red, crystal-rich, <5% rock fragments, very close to medium fracture spacing.	Tt3 at SM207: dominant joint set: N 19^0 E, 74^0 NW; secondary joint set: East, 74^0 South; joint set dipping into cut: N 85^0 E, 31^0 SE.	2235-2236, SM202: pan S of Clover Creek valley; 2237-2240, SM202: views W & E of wash Qay and Tsy on adjacent ridges; 2241, SM202: tributary wash Qay; 2242-2244, SM203: pan N to E of S end of Miller Bench, showing Tl, Tsy, and Tt3; 2252-2258, 2260, SM205: views SE to SW of Clover Creek channel & floodplain Qay and Tt3 cliffs; 2259, 2261-2265, SM205: views NW to NE of Tsy & Tt3 on N side of Dutch Flat; 2267-2268, SM206: pan NW of Tt3 outcrops on N side of Dutch Flat; 2269-2271, 2274-2275, SM207: Tt3 tuff in possible sidehill cut; 2273, SM207: view SE of Eccles siding.

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Eccles	S4	20130+00	20390+00	1 – 2	Tschanz and Pampeyan, 1970; Rowley and Shroba, 1991	Miller Bench. In the beginning part of this segment, the alignment ascends the bench by way of a wash tributary to Clover Creek. The bench is characterized by hill and swale topography, with typically ~ 20 ft between the tops of hills and the bottoms of swales. In the latter part of the segment, the alignment crosses Miller Bench, a low plateau dissected by numerous washes tributary to Meadow Valley Wash on the west and Clover Creek on the south.	On Miller Bench, the alignment traverses lakebeds of the Tertiary (Pliocene and Miocene) Panaca Formation (Tl) and young Quaternary (Holocene to late Pleistocene) alluvium (Qay) where washes are incised into the lakebeds. A swarm of NNW to NNE trending, high-angle faults, that can be down to the east or west, transects the gently dipping, synclinally folded lakebeds. Neither the faulting nor folding, which was mapped by Rowley and Shroba (1991) was confirmed during field reconnaissance, although the gentle dip of the lakebeds was evident.	Young Quaternary alluvium (Qay): at SM204, in a tributary wash to Clover Creek: loose to medium-dense, brown to reddish-brown, unconsolidated to indurated GRAVELLY SAND (SP) and SANDY GRAVEL (GP) with clasts generally to coarse gravel size, but scattered cobbles and small boulders present in slope wash, moderate-strength where indurated to form CONGLOMERATE; Tertiary lakebeds (Tl): variable, represented at SM198 by CLAYSTONE: moderate-strength, beige, with thin intervals of SANDSTONE: medium-high strength, light-gray, close to medium-spaced fractures, which extend into claystone, capped with generally ≤ 20 ft of gravelly alluvium.	No data	2214-2215, SM198: pan SE along alignment of Tl and Qay; 2216-2217, SM198: pan NW along alignment; 2225-2226, SM198: Tl outcrop; 2227-2230, SM200: pan W of hill and swale topography developed on Tl; 2231-2234, SM201: pan WSW to NW of hill and swale topography developed on Tl; 2237-2238, SM202: pan WSW of Tertiary sediments on nose of ridge crossed by the alignment; 2242-2244, SM203: pan N to NE of south slope of Miller Bench; 2245-2249, SM204: pan NNE to SE of Clover Creek tributary wash and Qay in wash; 2250-2251, SM204: Qay exposed in banks of Clover Creek tributary wash.
Eccles	S5	20390+00	20616+51	2	Tschanz and Pampeyan, 1970; Rowley and Shroba, 1991	Miller Bench to Meadow Valley. This segment proceeds northerly along the base of Miller Bench then continues into the Meadow Valley Wash floodplain. After the segment leaves the Meadow Valley Wash, it crosses US-93 where Bennett Springs Wash enters the floodplain of Meadow Valley Wash and abruptly climbs the bluffs west of US-93.	At the base of Miller Bench, the segment mostly crosses young Quaternary (Holocene and late Pleistocene) tributary wash and fan alluvium (Qay). Small areas of lakebeds in the Tertiary (Pliocene and Miocene) Panaca Formation are crossed, also, at the base of Miller Bench. Before crossing US-93 and Meadow Valley Wash, the segment traverses Quaternary (Holocene and latest Pleistocene?) floodplain sediments (Qc).	Quaternary floodplain alluvium (Qc): appears to vary depending on proximity to exposures of Tertiary lakebeds. At SM192 & 196, exposed alluvium is very stiff to hard, reddish-brown CLAY (CH); at SM195, 2 ft of dense, reddish-brown CLAYEY SAND (SC) overlies 1.5 ft of medium-dense to loose, light-brown, fine-grained SAND (SP); Young Quaternary tributary and fan alluvium (Qay): well exposed in the banks of a wash at SM197, consists of medium-dense, brown, SANDY GRAVEL (GP) overlain by medium-dense, reddish-brown, fine-grained SILTY SAND (SP); Tertiary lakebeds (Tl): variable, represented at SM198 by CLAYSTONE: moderate-strength, beige, with thin intervals of SANDSTONE: medium-high strength, light-gray, close to medium-spaced fractures, which extend into claystone; lakebeds capped with gravelly alluvium.	No data	2195, SM192: bluff W of US-93, which is the approach to the highway bridge; 2196-2201, SM193: US-93 cut in Tl; 2203, SM194: US-93 cut in fan gravel underlain by Tl; 2204-2206, SM195: Meadow Valley Wash floodplain alluvium; 2210-2213, SM197: views N to SE of Qay and Tl; 2214-2217, SM198: views NW & SE along alignment of Tl and Qay; 2225-2226, SM198: Tl outcrop; 2220, SM199: old borrow pit in fan gravel; 2221-2224, SM199: US-93 cut slopes in Tl and fan gravel.

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GV2	S18	28000+00	28245+00	15 – 16	Kleinhampl and Ziony, 1985	Coal Valley. This segment starts on the distal part of an alluvial fan sloping gently SW from the Seaman Range, crosses the west side of Coal Valley, and ends on an alluvial fan sloping east from the Golden Gate Range.	This segment traverses old Quaternary (early to middle-Pleistocene) fan alluvium (Qao) at the distal end of the alluvial fan sloping southwestward from the Seaman Range. The alignment then crosses young Quaternary (Holocene to latest Pleistocene) fine-grained sediments (Qayf) on the floor of Coal Valley, and young Quaternary (Holocene to latest Pleistocene) fan alluvium (Qay) at the base of the Golden Gate Range.	Young Quaternary fine-grained sediments (Qayf): at wpt SM133, SANDY SILT (ML), stiff, brown, trace fine gravel; Young Quaternary fan alluvium (Qay): at wpt SM129, sandy, SILTY GRAVEL (GM), dense to very dense, light-brown, abundant gravel to small boulder-sized clasts composed mainly of limestone; Old Quaternary distal fan alluvium (Qao): at wpt SM128, SANDY SILT (ML), stiff, brown, fine sand, trace gravel, about 3 inches of desiccated silt at the surface.	Not applicable	1808-1809, SM133: view NE of Coal Valley; 1810-1811, SM133: view SW of Coal Valley & Golden Gate Range; 0117-0118, SM134: views NW of Coal Valley & Golden Gate Range; 1812-1814, SM134: stock pond excavated in Coal Valley Qayf; 1815, SM134: Qayf excavated from stock pond; 0116, 1780-1781, SM129: fan alluvium from Golden Gate Range in Coal Valley; 1782-1783, SM129: view ESE of Coal Valley; 1776-1777, SM128, view SW of Coal Valley from Seaman Range fan.
GV2	S19	28245+00	29177+75	16, 22 – 23, 20-21	Tschanz and Pampeyan, 1970; Kleinhampl and Ziony, 1985; Workman et al, 2002a	Golden Gate Range at Water Gap to Garden Valley. This segment passes through the Golden Gate Range at Water Gap, then traverses southwesterly across Garden Valley. The terrain slopes gently eastward throughout this segment. Cottonwood and Cherry Creeks, which join at Water Gap, and numerous tributary washes, are incised into the floor of Garden Valley and the alluvial fan on the west side of Coal Valley.	This segment starts on young Quaternary (Holocene to Pleistocene) fan alluvium (Qay), then traverses Pennsylvanian Ely Limestone (PPe) exposures east of Water Gap in the Golden Gate Range. Westward, the segment traverses crosses old Quaternary (early to middle-Pleistocene) valley floor alluvium (Qao) and Holocene stream channel and floodplain deposits (Qc). West of Cottonwood Creek, the segment again crosses old Quaternary (early to middle-Pleistocene) valley floor alluvium (Qao). The northerly trending, high-angle, down-to-the-east Freiberg Fault, which bounds the east side of the Worthington Mountains, extends into Garden Valley beneath alluvium and intersects the alignment at approximately Station 28990+00. The northerly trending, high-angle, down-to-the-west Penoyer Fault, which bounds the west side of the Worthington Mountains, extends into Garden Valley beneath alluvium and intersects the alignment at about 29110+00. Water in 3 wells ranges from 430 ft deep in the center of Garden Valley to 114 ft deep at Water Gap.	Young Quaternary stream-channel and floodplain alluvium (Qc): at SM121, well-bedded, loose to dense, light-brown, medium-grained SAND (SP), fine-grained, SILTY SAND (SM), silty, SANDY GRAVEL (GP), and fine SANDY GRAVEL (GP); Young Quaternary fan alluvium (Qay): at SM129 & 295, dense to very dense, light-brown to reddish-brown, sandy, SILTY GRAVEL (GM) to silty, SANDY GRAVEL (GP) with abundant to scattered cobble-sized, mostly limestone clasts; Old Quaternary valley floor alluvium (Qao): at SM119 & 120, dense to very dense, reddish-brown to light-brown, SILTY SAND (SM), with gravel and cobble layers and very dense CALCRETE intervals; Ely Limestone (PPe): at SM132, very high-strength, gray, thin to medium-bedded, slope-forming, fine-grained LIMESTONE and thick-bedded, cliff-forming, CHERTY LIMESTONE with very closely to widely spaced fractures, increasing in frequency in cherty limestone; shallow colluvium at base of outcrops.	No data	1711-1712, SM117: view NE of Garden Valley & Golden Gate Range; 1713-1714, SM 117: view SW of Worthington Mtns. alluvial fan; 1726-1729, SM120: views ENE & WSW of Garden Valley; 1730-1731, SM120: Qao exposed in stock pond; 1733, nr SM121: Water Gap, Golden Gate Range; 1737-1740, 1743-1748, SM121: Golden Gate Range & Cherry Creek at Water Gap; 1741-1742, SM121: Coal Valley from Water Gap; 1799-1806, SM132: Qay, Joana Limestone, & Pilot Shale at Water Gap.

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GV3	S17	30000+00	31016+06	17 – 21	Workman et al, 2002a	Golden Gate Range to Garden Valley. The segment starts where the GV3 alignment dives from the GV1 alignment on an east-sloping alluvial fan at a low pass in the Golden Gate Range. For most of its length, this segment trends SW across Garden Valley. In crossing Garden Valley, the route intersects alluvial fans sloping SE to E from the Quinn Canyon Range. The alignment crosses numerous ephemeral streams. These streams include from north to south an unnamed south-flowing wash near the Golden Gate Range, Cherry, Sand, Pine, Cottonwood, and Barton Creeks. Cottonwood, Pine, and Cherry Creeks were flowing as a result of precipitation and melting snow in April and early May 2005.	At the beginning of the segment, the alignment skirts outcrops of the Devonian Guilmette Formation (Dg) and the Devonian and Mississippian Pilot Shale (MDp). Westward, the alignment descends a young Quaternary fan from the pass in the Golden Gate Range and crosses a young Quaternary (Holocene to late Pleistocene) alluvial fan adjacent to Cherry Creek (Qao). For a majority of the remainder of the segment, the alignment traverses dissected, old Quaternary (early to middle-Pleistocene) alluvial fans (Qao) extending east from the Quinn Canyon Range. The alignment crosses many washes filled with Quaternary channel and floodplain alluvium (Qc).	Quaternary channel and floodplain alluvium (Qc): generally loose to medium-dense, light- to dark-brown, SILTY SAND (SP-SM), GRAVELLY SAND (SP), and SANDY GRAVEL (GP) with cobbles & boulders, but in and near the south flowing trunk wash, stiff, grayish-brown CLAY (CL); Young Quaternary fan alluvium (Qay): medium-dense to dense, reddish-brown, silty, SANDY GRAVEL, locally underlain by very dense, white CALCRETE or capped with eolian, medium-dense, SILTY SAND; Old Quaternary fan alluvium (Qao) at AG36: dense, light brown, SILTY SAND (SM) mostly fine-grained sand, trace coarse sand to fine gravel; at AG37: very dense, pinkish-brown SANDY GRAVEL (GW); Pilot Shale (MDp): moderate to high-strength, laminated to thinly bedded, light-gray and purple banded shale and dark-gray, fine-grained limestone with very closely to closely spaced fractures; Guilmette Formation (Dg): very high-strength, gray, finely crystalline, calcite- and jasper-veined, laminated to thickly bedded LIMESTONE with medium to widely spaced fractures.	Dg at SM256: N87^{0}E, 88^{0}SE; N07^{0}W, 84^{0}SW	425-429, SM323: pans NE & SW along alignment; 430-433, SM324: pans NE & SW along alignment; 437, SM324: fan Qao; 437 &438, SM324: views down & up Cottonwood Creek; 2937, SM261: view up Cherry Creek; 2938-2940: Cherry Creek Qc; 2941-2942, SM261: pan SE to alignment crossing of Cherry Creek; 2932-2935, SM260: pans ENE & WSW along alignment; 2936, SM260: fan Qay; 2929, SM259: road crossing Garden Valley (GV) trunk wash; 2930-2931, SM259: views down wash; 2924-2926, SM258: trunk wash & Qc; 2927-2928: pan NW where alignment crosses GV trunk wash; 2916-2919, SM257: pans WNW & E along alignment; 2920-2923, SM257: Golden Gate Range (GGR) fan Qay with calcrete; 2909-2910, SM256: pan E through gap in GGR; 2911-2915, SM256: Dg & MDp outcrops in GGR.

TABLE 5
SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
SR2	S24	36000+00	36478+07	30 – 31	Ekren et al, 1971; Cornwall, 1972; Workman et al, 2002a	Reveille Valley. This segment starts on valley floor alluvium just south of basalt outcrops of the southern Reveille Range, and alternately skirts or crosses volcanic plateaus. The segment then passes just west of a basalt plateau that runs along the west side of the valley, and continues northward along the distal part of the Kawich Range alluvial fan.	Just south of the Reveille Range, the valley floor alluvium is young Quaternary (Holocene to latest Pleistocene) (Qay). The alignment also skirts or traverses small outcrops of Quaternary-Tertiary basalt (QTb) in this area. The plateau along the south-central part of the segment is underlain by Oligocene dacite lava flows (Ta2), and the plateau in the center of the valley is underlain by Quaternary-Tertiary basalt (QTb). Alluvium present in the distal Kawich Range fan, in the south-draining trunk wash on the valley floor, and in tributaries to this wash is mostly old Quaternary (early to middle Pleistocene) (QTb).	Young Quaternary valley floor alluvium (Qay): at wpt SM101, slightly gravelly, SILTY SAND (SM), very dense, reddish-brown; Old Quaternary tributary wash alluvium (Qao): at wpt SM95, silty, SANDY GRAVEL (GW), very dense, reddish-brown, fine to coarse gravel; Old Quaternary trunk wash alluvium (Qao): at wpts SM97-98, dense, reddish-brown, slightly gravelly, SILTY SAND (SM) to slightly silty, GRAVELLY SAND (SP) with scattered cobbles and boulders; Quaternary-Tertiary basalt (QTb): at wpt SM96, BASALT LAVA FLOW, very high-strength, dark-gray, very vesicular in upper 3 ft and non-vesicular below, fresh except for desert varnish on joint surfaces, widely spaced fractures; Oligocene lava flows and intrusives of intermediate composition (Ta2): at wpt SM100, DACITE LAVA FLOW, very high-strength, purple, porphyritic, locally flow-banded, fresh except on oxidized joint faces, very closely to widely spaced, diversely oriented fractures dominated by two vertical sets.	QTb at wpt SM96: N 12^0 E, 86^0 SE, planar; N 62^0 W, 83^0 SW, planar; and a set that is subhorizontal	1573-1575, SM96: QTb flow exposed in a wash on the floor of Reveille Valley; 1576-1577, SM97: view SW down Reveille Valley; 1578-1579, SM97, view NW of QTb flows on west side of Reveille Valley; 1580-1581, SM98, view SE of Reveille Valley wash incised into plateau underlain by Ta2; 1582-1584, SM98, view NW of QTb flows on west side of Reveille Valley; 1585, SM98: Qao outcrop; 1591, 1593-1594, SM100: Ta2 plateau, incised slot canyon, and outcrops; 1595-1596, SM101: view E of Qay at lower end of Reveille Valley; 1597-1598, SM101: view W of Qay at lower end of Reveille Valley.

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GF4	S42	42000+00	42370+00	46 – 47	Cornwall, 1972; Bonham and Garside, 1979; Workman et al, 2002a	Mud Lake Basin to northern Goldfield Hills. The southwesterly trending alignment crosses Mud Lake basin and ascends into the northern Goldfield Hills, a gently north-sloping plateau, at the southern end of Ralston Valley. In the Goldfield Hills, several tributaries of a NW-draining wash are incised 10-20 ft into the bedrock. The alignment crosses or follows this drainage in several places.	In the Mud Lake basin, the alignment crosses mostly young and old Quaternary fan and pediment deposits (Qay and Qao) surrounding Mud Lake, a circular playa ~20 mi^2 in area. Early Miocene pyroxene andesite lava-flow remnants (Ta3) and Quaternary-Tertiary basalt (QTb) lava flows protrude in places from the playa-apron sediments. The alignment passes just east of a Ta3 outcrop at station 42190+00. Near the end of this segment, a contact between Quaternary-Tertiary basalt (QTb) and Miocene tuff (Tt3) is exposed in a wash. The contact strikes NW and dips 30-35^{0}SW. Outcrops are generally sparse in the northern Goldfield Hills. Thin deposits of colluvium, young Quaternary (Holocene and late Pleistocene) wash alluvium (Qay), and old Quaternary (Pleistocene) pediment alluvium (Qao) cover what is believed to be mostly Quaternary-Tertiary basalt (QTb) and early Miocene silicic tuff (Tt3). Areas of QTb and Tt3 east of the alignment between 42210+00 and 42280+00 were inferred from topography, as there was neither geologic map coverage nor road access in this part of the alignment.	Young Quaternary alluvium (Qay): at SM352A, dense, brown, slightly silty, gravelly, fine to medium-grained SAND (SP) with scattered cobbles; Old Quaternary alluvium (Qao): at SM353, loose to medium dense, reddish-brown, slightly gravelly to gravelly, fine- to coarse-grained SAND (SP) and SILTY SAND (SP-SM) with thin intervals of dense to very dense, white, carbonate-cemented, gravelly sand (CALCRETE); Quaternary-Tertiary basalt (QTb): at SM350, 352A & B, BASALT: high to very high strength, dark-gray, finely crystalline, sparse la phenocrysts, locally auto-brecciated, columnar-jointed, closely to widely spaced fractures; Early Miocene Silicic tuff (Tt3): at SM352A, RHYODACITE? ASH-FLOW TUFF: high to very high strength, light-gray, moderately welded, breaks readily perpendicular to foliation planes spaced 1-4 inches apart, closely to medium-spaced fractures; Early Miocene lava flows and intrusives of intermediate composition (Ta3): no site specific description; see Table 3 for general description.	QTb at SM352A: N80^{0}W, 84^{0}NE; N09^{0}E, 75^{0}SE.	663, SM349: view SE toward juncture of GF4 & GF-1; 665 & 667, SM350: QTb lava flows; 676-679, SM350: QTb dome; 684-687, SM351: pan W to N edge of Goldfield Hills; 695-697, SM352: pan NE across wash of Qao slopes; 700, SM352A: wash Qay; 701, 703-704, SM352A: Tt3 outcrops; 702, 3317-3318, SM352A: Tt3 overlying QTb; 705, SM352B: QTb outcrop in Qay-filled wash, Qao slope in back; 710, SM353: Qao exposed in bank of wash.

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GF4	S43	42370+00	42670+00	47 – 48, 53	Albers and Stewart, 1972; Workman et al, 2002a	The segment begins in the Northern Goldfield Hills, then enters Montezuma Valley. Montezuma Valley is an area of low relief, underlain by remnant alluvial fans and non-resistant bedrock. Numerous, mostly NE trending, washes are incised into the valley. The last of these washes, Big Wash, runs NNW, is ~500 ft wide and ~20-25 ft deep, and contains multiple active channels where the alignment crosses it just east of US-95.	In Montezuma Valley, the alignment mostly traverses a remnant old Quaternary (early and middle Pleistocene) alluvial fan (Qao) and sparse outcrops and colluvium of the middle Miocene Siebert Tuff (Tsy). Along this part of the segment, the alignment passes just west of a poorly exposed outcrop of Quaternary-Tertiary basalt (QTb) overlying the Siebert tuff (Tsy). Big Wash and a similar wash to the NE with underfit channels are filled with alluvium believed to be as old as Pleistocene (Qc). Smaller washes carry alluvium believed to be predominantly Holocene (Qay).	Young Quaternary wash alluvium (Qay): at SM352A, dense, brown, slightly silty, gravelly, fine to medium-grained SAND (SP) with scattered cobbles and a gravelly pavement containing abundant, desert varnish coated, cobbles and boulders composed of volcanic rocks; Holocene and Pleistocene channel alluvium (Qc): in Big Wash at SM263, loose to medium-dense, brown, SANDY GRAVEL (GP) with thin intervals of gravelly, coarse-grained SAND (SP): fine to coarse-grained sand, fine to coarse gravel, scattered cobbles, small to la boulders in and between channels, eolian silty, fine-grained sand between channels; Old Quaternary fan alluvium (Qao): at SM263, 264, and 353, loose to dense, reddish-brown to brown, gravelly, locally silty, coarse-grained SAND (SP) grading to SANDY GRAVEL (GP) with scattered cobbles and thin intervals of dense to very dense, white, carbonate-cemented gravel (CALCRETE) and orange-brown and gray, limonite-cemented, coarse-grained sand; Siebert Tuff (Tsy): see S45.	No data	2956-2959, SM264: pans E & W from US-95; 2960-2962, SM264: pan S to SE of US-95 bridge location; 2963, SM264: Qao; 2964, SM264: US-95 cut in Qao; 2943-2944, SM263: pan E across Big Wash; 2945-2946: pan W to US-95; 2947-2948: pan u/s from W bank of Big Wash; 2949-2950, SM263: pan d/s from W bank of Big Wash; 2951-2955, SM263: Qc in Big Wash & Qao in banks; 698-699, SM352 & 708-709, SM353: pans SW of Montezuma Valley; 710-711, SM353: Qao; 700, SM752A: wash Qay; 706-707, SM353: pan NE along alignment.

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GF4	S44	42670+00	42970+00	53 – 54	Ashley, 1975; Workman et al, 2002a	Montezuma Valley, Malpais Mesa, and Goldfield Hills. The alignment runs parallel to US-95 at the southern end of the Montezuma Valley. At about 42850+00, it turns SE where it passes the town of Goldfield. Before crossing US-95, the alignment enters the Goldfield Hills and trends SE along the base of Malpais Mesa. Many springs, including Rabbit, Slaughterhouse, and West Springs, issue from the base of the mesa; some of these have historically been used to supply water to Goldfield.	North of Malpais Mesa, the alignment stays on Quaternary-Tertiary pediment gravel (QTa) to a wash at about 42820+00, except where it crosses a small outlier of Tsy. South of the wash along Malpais Mesa, the alignment crosses slopes underlain by the middle Miocene Siebert Tuff (Tsy). Tsy bedding mostly strikes NW and dips 5-30^0 SW, but it is disturbed by a fault at the southern end of the segment. Two other faults are mapped in the area, at Spearhead Point and at Rabbit Spring. These faults strike N to NNW. The fault at Spearhead Point dips 76^0 east.	Young Quaternary wash alluvium (Qay): see S43; Quaternary-Tertiary pediment gravel (QTa): medium dense to dense, brown to brownish-yellow, unconsolidated to poorly limonite-cemented, slightly gravelly, medium to coarse-grained SAND (SP), GRAVELLY SAND (SP), and SANDY GRAVEL (GP); Malpais Basalt (QTb): estimated very high-strength, dark-gray, BASALT, forming a 100-ft thick cliff (not visited); Tuff of Stonewall Flat (Tst): very high-strength, pink and gray, nonwelded to partially welded, lithic-rich, ledge-forming RHYOLITE ASH-FLOW TUFF, medium to very widely spaced fractures; Rabbit Spring Formation (Tsy): very dense, poorly consolidated deposit of volcanic boulders and cobbles in a carbonate-cemented, silty matrix, present discontinuously above the Siebert Tuff; Siebert Tuff (Tsy): moderate to high strength, brownish- to greenish-yellow, green, and light-gray (orange-brown where weathered near upper contact), medium to coarse-grained SANDSTONE and GRAVELLY SANDSTONE, closely to widely spaced fractures, easily eroded, slope-forming, prone to slumping.	Tst at SM271: N21^{0}E, vertical; N40^{0}W, 83^{0}NE; columnar; Tsy at SM267: N10^{0}W, 88^{0}NE; N59^{0}E, 89^{0}NW.	2965-2967, SM265: views S to N of QTa at aqueduct crossing; 2970-2971, SM266: QTa/Qay contact on N bank of wash; 2972-2973, SM266: Qay/Tsy contact on S bank of wash; 2974-2975, SM266: views E & W of pipeline crossing in QTa; 2976, SM266: QTa, close up; 2979-2980, 2983-2984, SM267: Tsy gravelly sandstone; 2981-2982, SM267: pan S of Malpais Mesa; 2988-2993, nr SM268: pans SE of Goldfield; 2996-2998, SM268: Malpais Mesa at Slaughterhouse Spring, with slump in Tsy; 2999-3001, SM268: Tsy sandstone; 3002, SM268: highly weathered Tsy by adit; 3004-3005, SM269:Tst over Tsy in Malpais Mesa; 3007, SM269: Malpais Mesa tunnel N portal; 3011, SM270: QTb, Tst, & Tsy at tunnel S portal; 3014, SM270: Rabbit Spring issuing from Tsy; 3017-3019, 3023, SM271: Siebert Tuff, Rabbit Spring Fm, & Tst; 3024-3025, SM271: pan SE to US-95; 3029, SM272: Pozo Canyon.

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GF4	S45	42970+00	43235+00	54 – 55	Ashley, 1975; Workman et al, 2002a	Goldfield Hills. In the Goldfield Hills, the alignment curves broadly from ESE to E to compensate for grade and then proceeds SSW. The route threads its way through the hills by following swales. Hills and swales reflect variations in the resistance of different rock types and incision by numerous washes.	The alignment is entirely on Miocene volcanic and sedimentary rocks in this segment, except where it crosses washes filled with young Quaternary alluvium, that are incised into the bedrock. Mostly, the route crosses the middle Miocene Siebert Tuff (Tsy), which consists of sedimentary rocks intercalated with ash-fall tuff. The Mira Basalt (part of unit QTb) is intercalated with the Siebert Tuff (Tsy) from Mira Mountain west to US-95. The early Miocene Meda Rhyolite (part of unit Tt3) is present in fault blocks east of Meda Pass. Between 43100+00 and 43150+00, the route crosses early Miocene lava flows of intermediate composition (Ta3) and silicic ash-flow tuff (Tt3). Formations locally present east of Meda Pass include the middle Miocene Basalt of Blackcap Mountain and the late Miocene Tuff of Stonewall Flat (Tst). Bedding generally strikes NW to ENE and dips 5-50^0 southward but is disrupted by faults. A NW-striking swarm of faults with measured dips of 50-80^0 NE intersects the alignment between 43080+00 and 43170+00. Other known or inferred faults cut the Siebert Tuff (Tsy) north of Mira Mountain and the Mira Basalt (QTb) at US-95.	Young Quaternary wash alluvium (Qay): loose to medium-dense, brown, gravelly, fine to coarse SAND (SP) with scattered cobbles; Tuff of Stonewall Flat (Tst): high to very high-strength, purple and light-gray, partially to mod. welded, rhyolitic ASH-FLOW TUFF, med. to widely spaced fractures; Siebert Tuff (Tsy): low to high-strength, greenish-yellow, green, light-gray, and white SANDSTONE, GRAVELLY SANDSTONE, CONGLOMERATE, & ASH-FALL TUFF, closely to very widely spaced fractures; Mira Basalt (QTb): very high-strength, pale-purple, porphyritic, DACITE? LAVA FLOW, very closely to med.-spaced fractures; Early Miocene silicic ash-flow tuffs (Tt3): medium-high to very high strength, pink, light-gray, and gray and orange-banded, partially to moderately welded, rhyolitic ASH-FLOW TUFF, altered and brecciated in fault zones, very closely to medium spaced fractures; Early Miocene intermediate lava flows (Ta3): moderate to high strength, dark-gray, altered purple, white, and orange, ANDESITE? LAVA FLOW, very closely to closely spaced fractures.	Tst at SM279: N20^{0}E, 87^{0}NW; N77^{0}W, 81^{0}NE; QTb at SM273: N72^{0}E, 62^{0}SE; N30^{0}W, 78^{0}NE; Tt3 at SM275: N84^{0}E, 65^{0}NW; N76^{0}W, 69^{0}NE; Tst at AG47: N27°W, 71°SW and N56°E, 69°NW; Tst at AG50:,N22°W, 76°SW and N1°E, 75°NW.	3032-3047, SM273: Tsy overlain by Tst & QTb at US-95 crossing; 3049-3051, SM273: pan W of Tsy slump; 3055-3059, SM274: Qay-filled wash cut in Tsy below QTb-capped Mira Mt; 3060-3062: Tsy ash-fall tuff; 3063, SM274: Qay in wash; 3064-3067, SM275: pan ENE toward Blackcap Mt; 3068-3069, SM275: Tt3 ash-flow tuff; 3071-3076, SM276: pan S of hills underlain by faulted Ta3, Tsy, and Tst; 3079, SM276: Blackcap Mt; 3080-3081, SM276: pan NNE of Goldfield Hills; 3082, SM276: hydrothermally altered Ta3; 3083-3088, SM277: mine in Tsy tuff; 3089-3090, SM277A: fault breccia; 3091, SM277A: Tt3 faulted against Tsy; 3093-3095, SM277A: pan NW to N of hydrothermally altered Ta3 hills; 3097-3098, SM277A: Tsy conglomerate; 3099-3100, SM278: Tsy tuff & breccia; 3102, SM279: wash incised into Tsy & Tst; 3103-3107: Tst in old RR cut.

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GF4	S46	43235+00	43712+85	55, 51 – 52	Workman et al, 2002a	Southern Goldfield Hills. The alignment descends gently sloping terrain from the south flank of the Goldfield Hills. Several SE to S draining washes cross the alignment. The alignment parallels one of these SE draining washes along the southern end of the segment.	The alignment alternately is on an old Quaternary (middle and late Pleistocene) alluvial fan (Qao), which extends south from the Goldfield Hills, and low ridge forming outcrops of the Miocene Tuff of Stonewall Flat (Tst). Between Station. 43500+00 and 43630+00, the alignment skirts and crosses a wash filled with Quaternary channel sediments (Qc).	Old Quaternary fan alluvium (Qao): at SM55, an old railroad cut, medium-dense, reddish-brown, gravelly, SILTY SAND (SP-SM) with dense to very dense, indurated intervals; CALCRETE horizon exposed at grade level; carbonate-coated gravel, cobbles, and boulders excavated from the cut indicate the presence of potentially dense to very dense gravel-cobble-boulder layers at depth; Tuff of Stonewall Flat (Tst): light-orange-brown and purple, nonwelded, lithic-rich, RHYOLITE ASH-FLOW TUFF with variable resistance to weathering and spacing of discontinuities; at SM280, at the start of the segment, moderate to medium-high strength, unweathered, very close to medium-spaced fractures; at SM354, near the end of the segment, high to low strength, decreasing with increased weathering, slightly to highly weathered, cavernous where highly weathered, indistinctly bedded (massive), very widely spaced fractures	No data	721, SM55: Qao exposed in RR cut; 722-723, SM55: pan S of Qao in old RR cut & Stonewall Mt; 724-725, SM55: pan E across Qao fan toward alignment; 712-713, SM354: pan WSW of Tst ridge and Qao fan; 714-716, SM354: pan SE down Qao fan; 717-720, SM354A: cavernously weathered Tst; 3110, SM280: view S of Stonewall Mt; 3111-3116, SM280: abandoned railroad cut in Tst.
BC2	S48	44000+00	44190+00	56 – 57	Workman et al, 2002a	Lida Valley. In Lida Valley, this segment cuts across the bottom of an alluvial fan extending SW from Stonewall Mountain.	The alignment in this segment is entirely on young Quaternary (Holocene to late Pleistocene) fan alluvium (Qay).	Young Quaternary fan alluvium (Qay): at SM356, dense, reddish-brown, moist, gravelly, generally fine to medium-grained SAND (SP); relative density controlled by abundant coarse gravel and scattered cobbles.	Not applicable	777-778, SM357A: pan WNW of Lida Valley and Avail Flat; 771, SM357: view NW to Lida Valley; 753, SM356: fan Qay; 754-756, SM356: pan SE to S of Qay fan and Avail Flat; 757-759, SM356: pan NW to NE of Qay fan and Stonewall Mtn.

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Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
BC2	S49	44190+00	44325+00	57	Workman et al, 2002a	Sarcobatus Flat. From the northern end of this segment the route alternately crosses fan alluvium and a wash that is incised as much as 60 ft into the fan alluvium. Southward, the alignment crosses the eastern margin of hills underlain by Timber Mountain Group tuff. La blocks of tuff that have slid off the hills, border or lie within the incised wash.	At about Station 44225+00, the route descends about 60 ft off of the dissected surface of an alluvial fan extending SW from Pahute Mesa. The fan is composed of young Quaternary (late Pleistocene to Holocene) alluvium (Qay). Washes draining this fan are about 20 ft deep; they are present from the beginning of the segment. In the central part of the segment, the wash running down the valley in which the alignment is located (see S50) hugs the west side of the valley, and the route mostly follows this wash. This wash is filled with Quaternary channel and floodplain alluvium (Qc). The south end of this segment cuts through the side of a ridge underlain by the Timber Mountain Group (Tm).	Quaternary channel and floodplain alluvium (Qc): not described, but assumed to be generally loose to dense sand, gravel, and cobbles, with scattered boulders; Young Quaternary fan alluvium (Qay): at SM357, 4-14 inch-thick intervals of loose to medium-dense, brown, gravelly, generally coarse-grained SAND (SP) and SANDY GRAVEL (GP), with commonly la gravel- and cobble-sized clasts in the gravel layers; capped by an 18-inch-thick layer of very dense, white, carbonate-cemented sand, gravel, and cobbles (CALCRETE); Timber Mountain Group (Tm): at SM357B and SM358B, ASH-FALL TUFF: low to medium-high strength, beige, nonwelded, lithic-rich, cavernously weathered, indistinctly bedded (massive), very widely spaced fractures, slope forming; overlain by ASH-FLOW TUFF: high strength, purple and gray, nonwelded, lithic-rich, closely to widely spaced fractures, ledge-forming; bedding oriented N65^{0}W, 16^{0}NE.	No data	797-800, SM358B: pan NE of washes incised into Qay fan; 807, SM358A: view SE of wash incised into Qay fan, slide block, & Tm outcrop; 810-812, SM358A: pan W to NW of Tm hills, wash, & Qay fan; 783-785, SM357B: pan ESE from Pahute Mesa to Tm hills; 792-793, SM357B: pan NE of area where alignment ramps up from wash to Qay fan; 781-782, SM357A: cavernously weathered Tm ash-fall tuff; 761-765, SM357: pans SE & NW of washes eroded into Qay fan; 770-771, SM357: pan SW down wash eroded into Qay fan to Lida Valley; 769, 772-773, SM357: Qay exposed in bank of wash.
BC2	S50	44325+00	44958+76	57 – 60	Workman et al, 2002a	Sarcobatus Flat. Between hills that form a divide between Lida Valley and Sarcobatus Flat, on the west, and Pahute Mesa, on the east, the alignment runs SSE in an alluviated valley. Between 44300+00 and 44515+00, the route crosses a braided wash that runs the length of the valley, and skirts the NE side of a 460-ft high bedrock knoll.	From the north end of the segment to approximate Station 44710+00, the segment mostly crosses young Quaternary (Holocene to late Pleistocene) fan alluvium (Qay) extending west from Pahute Mesa and east from the hills forming the Sarcobatus Flat-Lida Valley divide. The wash running down the valley is filled with Holocene channel and floodplain alluvium (Qc), and is bordered on the east by young Quaternary fine-grained alluvium (Qayf). Rocks of the Miocene Timber Mountain Group (Tm) underlie the 460-ft high bedrock knoll at the northern part of the segment. The southern part of this segment crosses alluvial fans of Holocene to Pliocene ages (QTau), which descend from Pahute Mesa and other upland areas. The fans are moderately dissected.	Quaternary channel and floodplain alluvium (Qc): not described, but assumed to be generally loose to dense sand, gravel, and cobbles, with scattered boulders; Young Quaternary fan alluvium (Qay): at SM355, medium-dense, yellowish-brown, gravelly, silty, generally medium-grained SAND (SP-SM): sub-rounded to angular, fine to coarse gravel and rare cobbles; Timber Mountain Group (Tm): see S49; Alluvium (QTau): in general, loose to dense, light-brown, silty, SANDY GRAVEL (GP) with cobbles and sparse to common boulders; Quaternary valley-fill sediments (Qayf): No site specific description; see Table 3 for general description.	Not applicable	741-743, SM355: pan W to N of Sarcobatus Flat, flanking hills, & Stonewall Mtn.; 744-746, SM355: pan SE to S of Sarcobatus Flat & Pahute Mesa; 3319, SM355: Qay exposed in a shallow wash; 774-776, SM357A and 794-796, SM358B: pans SE of valley through which the alignment runs.

TABLE 5
SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
OV3	S54	46000+00	46230+00	64	Slate et al, 1999; Fridrich et al, 1999	Oasis Valley west, Amargosa River crossing. West of the Oasis Valley, this segment crosses the base of a dissected alluvial fan sloping SW from Pahute Mesa. A tributary wash joins the Amargosa River just west of where the alignment crosses the main valley. The alignment then crosses the multi-channeled, NE-trending Oasis Valley, where it is about 1,200 ft wide and incised 20-50 ft deep into Pleistocene alluvium and Tertiary sedimentary and volcanic rocks. Two channels appear to carry most of the ephemeral flow in the river.	The western portion of this segment is underlain by Tertiary basin-fill sediments (Tsy). These Tertiary basin-fill sediments (Tsy) are incised by numerous washes filled with young Quaternary (Holocene) alluvium (Qay) and Tertiary alluvium (QTau). In the central portion of the segment, the alignment crosses the Amargosa River. The segment crosses a small deposit of Quaternary-Tertiary colluvium (QTc) between the main channel and a western tributary. Quaternary channel and floodplain alluvium (Qc) fill the valleys of the river and its main tributaries, and Old Quaternary (early to middle Pleistocene) alluvium (Qao) forms the SE bank of the Amargosa River. In the same area, the segment passes just south of outcrops of Rhyolite of Colson Pond (Tvr) and Miocene Basalt of Black Mountain (QTb).	Quaternary channel and floodplain alluvium (Qc): at SM293, loose to medium-dense, brown, fine to coarse-grained, GRAVELLY SAND (SP) and SANDY GRAVEL with cobbles (GP), in layers 6-12 inches thick, capped by <1 ft of eolian loose, fine-grained sand; Young Quaternary alluvium (Qay): at SM26, loose, light-brown, sandy, SILTY GRAVEL (GM); Middle Quaternary alluvium (Qam): see S55; Tertiary alluvium (QTau): at SM24, loose, light-brown, gravelly, SILTY SAND (SM) with scattered cobbles; Old Quaternary alluvium (Qao): at SM293A, very dense, brown, slightly silty, SANDY GRAVEL (GP) with cobbles and boulders to 1.5-ft diameter and CALCRETE layers; Younger Tertiary basin-fill sediments (Tsy): see S55; Basalt of Black Mountain (QTb): at SM293E, very high-strength, dark-gray, very vesicular, amygdaloidal BASALT with closely to widely spaced fractures; Rhyolite of Colson Pond (Tvr): at SM293B, high to very high-strength, gray, porphyritic, slightly vesicular, RHYOLITE LAVA FLOW, underlain by high-strength, gray PERLITE, with very closely to widely spaced fractures and foliation oriented N 34^0 E, 17^0 NW.	Tvr at SM293B: N69^{0}E, 84^{0}SE; N33^{0}W, 89^{0}SW; QTb at SM293E: N46^{0}E, 71^{0}SE; N60^{0}W, 79^{0}NE; and a low-angle set of fractures with typically ≤1-inch spacing.	3212-3215, wpt SM293: pans NW & SE of Amargosa R. channel; 3216, wpt SM293: Qc; 3217-3218, wpt SM293: pan u/s of Amargosa R. channel & W bank; 3219, wpt SM293A: Qao in east bank; 3220-3222, wpt SM293A: views NW & SE of Amargosa R. valley; 3223-3224, wpt SM293B: pan SE of Amargosa R. valley; 3225-3226, wpt SM293B: pan NW of Qam & Tvr on W bank of Amargosa R.; 3228-3229, wpt SM293B: Tvr; 3230-3231, wpt SM293C: pan NW of Amargosa tributary wash; 3232, wpt SM293C: view SE to Amargosa R.; 3234, wpt SM293D: colluvium on QTb; 3237, wpt SM293D: view SE along QTb ridge; 3238, wpt SM293D: view S of Colson Pond; 3240, wptSM293E: QTb; 3242, wpt SM293F: spring issuing from Tsy? colluvium.

TABLE 5
SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
OV3	S55	46230+00	46470+48	64 – 65	Slate et al, 1999; Fridrich et al, 1999	Oasis Valley east. In Oasis Valley, east of the Amargosa River, the alignment traverses low, hummocky topography incised by numerous ENE- to E-trending, small washes, which are tributaries of the Amargosa River. At about 46330+00, the alignment crosses a WNW-trending wash that is a tributary of the river. This wash is estimated to be ~750 ft wide and 30 ft deep. Although the wash has multiple channels, two of these, each ~10-20 ft wide, appear to be the principal conduits of ephemeral flow.	The alignment alternately traverses younger Tertiary sedimentary rocks (Tsy) and Holocene and Pleistocene alluvium (Qc, Qay, Qam). Holocene and Pleistocene alluvium occurs in and adjacent to washes. Between washes, sparse outcrops protrude from colluvium. Bedrock is estimated to be <15 ft deep where Tertiary sedimentary rocks (Tsy) are present.	Quaternary channel and floodplain alluvium of Amargosa River (Qc): loose to medium-dense, brown, moist, fine to medium-grained SAND (SP), GRAVELLY SAND (SP), and fine SANDY GRAVEL (GP), in 3-9-inch thick layers; Middle Quaternary alluvium (Qam): loose to dense, brown, slightly gravelly, fine to coarse-grained SAND (SP), locally slightly clayey, with seams of medium-dense to dense, brown, SANDY GRAVEL (GP); Younger Tertiary basin-fill sediments (Tsy): moderate to high-strength, tan and light-gray, SANDSTONE, GRAVELLY SANDSTONE, and CONGLOMERATE; conglomerate, composed of sand to gravel-sized rock fragments in a sandy matrix, grades into gravelly sandstone; colluvium, very dense, light-tan to reddish-brown, fine-grained sand with abundant gravel-sized rock fragments (GP), veneered with scattered cobbles and boulders of volcanic rocks; Young Quaternary alluvium (Qay): at SM26, loose, light-brown, sandy, SILTY GRAVEL (GM)	Outcrops of Tsy are too small to determine fracture spacing or orientation.	3189-3190, wpt SM23: pan NW to N from Oasis Mountain to Pahute Mesa; 3191-3192, wpt SM23: Pan S to SW to Bare Mt; 3193-3195, wpts SM18 & SM23: Tsy sandstone and colluvium; 3196-3197, wpt SM292: Pan NW of Amargosa tributary incised into Qam; 3198-3199, wpt SM292: pan S to SW of Bare Mt & Bullfrog Hills; 3200, wpt SM292: Qam, close up; 3201-3211, wpt SM292: views up, down, and across the Amargosa River tributary wash.

TABLE 5
SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
GF3	S39	52000+00	52650+00	46 – 49	Ashley, 1975; Bonham and Garside, 1979; Workman et al, 2002a	Mud Lake basin to northern Goldfield Hills. From the start of the segment to approximate station 52250+00 the alignment turns southward and ascends out of the Mud Lake basin. The alignment crosses several eastward projecting basalt ridges and hills and an eroded cinder cone, into which shallow washes are incised. Beyond this point, the alignment swings to the southwest to the base of a basalt plateau and then trends southerly along the base of the plateau. South of approximate Station 52425+00, the route cuts back and forth across a north-draining wash, and follows the crests of basalt hills and ridges. This segment ends where the alignment cuts through a basalt ridge and crosses a low drainage divide between an ENE draining wash and a northerly draining one.	Young Quaternary (Holocene to late Pleistocene) alluvium (Qay) fills washes incised into the volcanic rocks which are present along most of this segment. This alluvium comprises a sedimentary apron around Mud Lake playa and forms a shallow pediment deposit where the alignment ascends out of Mud Lake basin. South of Mud Lake basin, the alignment traverses Quaternary-Tertiary basalt (QTb). Small outcrops of early to middle Miocene Milltown Andesite (in unit Ta3; see description in S40), Rhyolite of Wildhorse Spring (Tvr; see description in S40), and Siebert Tuff (Tsy) straddle a fault near the end of the segment. This fault strikes N 45^0 W and dips 63^0 NE. Old Quaternary (early to middle Pleistocene) alluvium (Qao) underlies the low drainage divide near the end of the segment.	Young Quaternary wash alluvium (Qay): at SM391 & 400, SANDY GRAVEL (GP) and slightly silty, GRAVELLY SAND (SP): loose to dense, brown to reddish-brown, fine to coarse-grained sand, scattered to abundant gravel and cobbles, boulders to 3-ft diameter in channels; Young Quaternary pediment and playa-apron deposits (Qay): at SM397 & 398, CLAYEY to SILTY SAND (SC to SM): loose to dense, reddish- to grayish-brown, mostly fine-grained sand, trace to common gravel and cobbles; Old Quaternary alluvium (Qao): at SM381, Silty, GRAVELLY SAND (SP-SM): med.-dense to very dense, grayish-brown, mostly fine-grained sand, calcium carbonate seams; Quaternary-Tertiary basalt (QTb): at many sites between SM382 and SM403, BASALT LAVA FLOWS: very high strength, dark-gray, generally fine-grained, variably vesicular, secondary minerals in many vesicles, extremely closely to widely spaced fractures, erodes to boulders; locally red, partly cemented SCORIA with hard, GRAVELLY CLAY (CL) colluvium, intruded by BASALT necks; Early Miocene sedimentary rocks (Tso): at SM364 & 365: CONGLOMERATE, completely weathered to SANDY GRAVEL (GP): medium-dense to dense, purple and green; gravel to boulder-sized clasts of altered volcanic rocks in fine to medium-grained sand; and SANDSTONE: moderate to medium-high strength, olive-green, medium-grained, thinly bedded, extremely closely to closely spaced fractures; Siebert Tuff (Tsy): RHYOLITIC ASH-FALL(?) TUFF: medium-high to high strength, pinkish-beige, nonwelded, lithic-rich, closely to medium-spaced fractures.	QTb at SM382: N42^{0}W, 77^{0}SW; N26^{0}E, 49^{0}SE; and an unmeasured high-angle set; QTb at SM402: N26^{0}W, 84^{0}SW; N45^{0}E, 73^{0}SE; and an unmeasured low-angle set.	173-176, SM382: pan NW along GF3; 179-180, SM382: pan NE of QTb & Tvr hills; 181-182, SM382; 202-203, SM387; 206, SM388; 232-233, SM395; 207-208, SM389; 209-210, SM390; 218, SM391; 271, SM403; 265, SM402; & 248-251, SM399: QTb flows; 184, SM383: Tsy; 165-166, SM 380: views NW & SE along GF3; 167-168, 171, SM381: views NW & SE along GF3; 172, SM381: Qao; 196-199, SM387: pans NE & SW along GF3; 204-205, SM388: views NE & SW along GF3; 219-226, SM393: views SSE to NNW along GF3; 228, SM394: QTb ridge nr GF3; 231, SM394: view SE along GF3; 211-215, SM391-392: views SE & NW along GF3; 217, SM391; & 256, SM400: wash Qay; 234-235, SM396: view NW along GF3; 266-270 SM403: pans NE & S along GF3; 263-264, SM402: views SE & NW along GF3; 258-259, SM401: views NW & SE along GF3; 257, 260-262, SM401 & 400: QTb scoria, basalt necks, & colluvium in eroded cinder cone; 253-255, SM400: views NW & SE along GF3; 245-247, SM399: views NW & SE along GF3; 244, nr SM399: view SE of QTb ridge; 240-241, SM398: views SE & NW along GF3; 243, SM398: pediment Qay; 397-398, SM397: views SW & NE along GF3; 239, SM397: playa apron Qay.

TABLE 5
SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
GF3	S40	52650+00	53085+00	49 – 50	Ashley, 1975	Goldfield Hills. In approaching a drainage divide at station 52752+00, the segment maintains design grades by making 4 curves through relatively low hills. The segment descends from this divide by following valleys between hills. The segment crosses several south-draining washes on the south side of the drainage divide and two northeast-draining washes on the north side of the divide. Numerous mines, prospects, and tailings piles, associated with zones of clayey hydrothermal alteration, are present along the segment. Just east of station 52855+00 Willow Springs issues from a fault cutting volcanic rocks.	This segment mostly traverses early Miocene lava flows, intrusives, and breccia, but it also crosses small areas where early Miocene sedimentary rocks (Tso), the early Miocene Meda Rhyolite (in unit Tt3; see description in Ashley, 1975), and the middle Miocene Siebert Tuff (in unit Tsy; see description in S39) crop out. The segment traverses young Quaternary (Holocene to late Pleistocene) alluvium (Qay) where washes are incised into the volcanic rocks. The northern part of the segment alternately traverses unit Ta3 and the Rhyolite of Wildhorse Spring (in unit Tvr). In the southern part of the segment, the volcanic rocks consist of the Milltown Andesite, the Dacite at Goldfield, and andesite megabreccia, which are all part of unit Ta3. Numerous faults cross this segment, most of which strike NNE to NW and dip 45 - 85^0 ESE to NE.	Young Quaternary wash alluvium (Qay): at SM368, 371, & 378: Slightly silty to clayey, GRAVELLY SAND (SW to SP) & silty to clayey, SANDY GRAVEL (GP to GC): loose to dense, brown, fine to coarse-grained sand, trace to common gravel and cobbles, boulders to 3-ft diameter in channels; Early Miocene sedimentary rocks (Tso): at SM364 & 365: CONGLOMERATE, completely weathered to SANDY GRAVEL (GP): medium-dense to dense, purple and green; gravel to boulder-sized clasts of altered volcanic rocks in fine to medium-grained sand; and SANDSTONE: moderate to medium-high strength, olive-green, medium-grained, thinly bedded, extremely closely to closely spaced fractures; Rhyolite of Wildhorse Spring (Tvr): at SM379B & 385: RHYOLITE LAVA FLOW: very high strength, light-gray, porphyritic, foliated, extremely closely to widely spaced fractures; Early Miocene rhyodacite to basaltic andesite volcanic rocks (Ta3): at SM367-379A, LAVA FLOWS, BRECCIA, and INTRUSIVES: moderate to very high strength, gray to black, becoming orange, white, gray, purple, green, and yellow where hydrothermally altered; none to extensive hydrothermal alteration; extremely closely to widely spaced fractures.	Ta3 at SM369: N42^{0}W, 83^{0}NE, dominant; N02^{0}E, 63^{0}NW; N65^{0}E, 35^{0}SE; Ta3 at SM373: N15^{0}E, 41^{0}NW, dominant; N25^{0}W, 56^{0}NE, shear zone; Ta3 at SM376: N58^{0}W, 34^{0}SW, dominant; N84^{0}E, 70^{0}NW; N35^{0}E, 89^{0}NW; Ta3 at SM377: N87^{0}E, 69^{0}SE, dominant; N16^{0}W, 85^{0}NE.	68-77, SM364 & 365: Tso between ridges of Ta3; 78-80, SM366: pan SE toward GF3; 82 and 84, SM367: Tab; 86-87, SM368: pan E along GF3; 89-90, SM368: altered Td; 91, 95, & 97, SM369: Td intrusive; 96 & 100, SM369: views SE & SW along GF3; 101 & 103, SM370: views NW & SE along GF3; 104, SM370: Td; 102, 105-108, SM370: Td cut by faults; 109-111, SM371: views SE & NW along GF3; 112, SM371: wash Qay; 113, SM372: Tab; 114-120, SM372 & 372A: views SW & NE along GF3; 121-125, SM373: pans NW & E along GF3; 126-127, SM373, Tma; 128-129, SM374: altered Td; 130-131, 134-137, SM375 & 375A: views SW & NE along GF3; 132, SM375: Td; 138, SM375B: Tma; 139-140, SM376: pan NW along GF3; 143-144, SM376 & 153-154, SM377: Tma lava flows & breccia; 145-146, 149-150, SM377 & 155-156, SM378: views SW & NE along GF3; 157, SM378: wash Qay; 158, SM379: Td; 160 & 163, SM379A: views SW & NE along GF3; 161, SM379A: Tma ridge along GF3; 162, SM379A: Tma; 164, SM379B: Tvr; 177, SM382: view SE along GF3; 187, SM384: view SW to GF3 between Tvr & Ta3 hills; 189, SM385: Tvr; 195, SM385: fault scarp cutting Tvr; 191-192, SM386: views NW to W along GF3.

TABLE 5
SUMMARY OF GEOLOGIC CONDITIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station From	Station To	Figure 3 Sheet(s)	Sources of Geologic Data	Geographic Description	Geologic Description	Lithology of Geologic Units	Discontinuity Measurements	Selected Photos (See Appendix H for Complete Photo Set)
GF3	S41	53085+00	53224+49	50 – 51	Ashley, 1975; Workman et al, 2002a	Southern Goldfield Hills. This segment descends the southeastern flank of the Goldfield Hills in an S-curve. The terrain traversed by the segment slopes gently to the southeast and is crossed by several la, southeast-draining washes.	The alignment in this segment mostly traverses the early Miocene Tuff of Chispa Hills (in unit Tt3). Foliation in the tuff at or near the alignment generally strikes NNW to NW and dips 18-38^0 WSW to SW. La areas of the tuff are covered by thin pediment deposits, which are inferred to be old Quaternary (early to middle Pleistocene) in age (Qao). Washes incised into the tuff and pediment deposits contain young Quaternary (Holocene to late Pleistocene) alluvium (Qay).	Young Quaternary wash alluvium (Qay):at SM359, GRAVELLY SAND (SW to SP): loose to medium-dense, grayish-brown, locally silty, sand fine to coarse-grained, becoming less dense with increasing grain size; abundant cobbles and scattered boulders to 2-ft diameter; Old Quaternary pediment deposits (Qao): at SM360, Silty GRAVELLY SAND (SP) with lenses of SANDY GRAVEL (GP): dense, grayish-brown, slightly indurated, sand predominantly coarse-grained; abundant cobbles and scattered boulders to 2-ft diameter, partly coated with calcium carbonate; well-developed desert pavement; Tuff of Chispa Hills (Tt3): at SM361, RHYOLITIC ASH-FLOW TUFF: high-strength, light-gray, nonwelded, crystal-rich, lithic-rich, slightly weathered, close to medium-spaced fractures; Tuff of Stonewall Flat (Tst): at SM362 & 363, RHYOLITIC ASH-FLOW TUFF: high to very high strength, pinkish-beige & purplish-brown, partially to densely welded, crystal-rich, lithic-rich, extremely closely to widely spaced fractures.	Tst at SM363: N14^{0}W, 85^{0}SW, dominant; N85^{0}E, 81^{0}SE; and an unmeasured low-angle set.	37-39, SM359 & 45, SM360: views NE of Qao covered Tt3, Ta3 hills in distance; 40 & 42, SM359: Qay in wash; 44, SM360: Qao on E bank of wash; 46-47, 49, SM361: Tt3 outcrop; 54-56, SM362: pan NE along GF3; 57, SM362: Tst outcrop; 58-59, SM362: pan SW along GF5; 60-61, SM363: pan NE along GF3; 62-62, SM363: pan SW along GF3; 64-65, SM363: pan NW of Tst & Tt3, Ta3 hills & Blackcap Mt in distance; 66-67, SM363: Tst outcrop.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS
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BC3	Bonnie Claire 3	S38	9
		S47	9
Caliente	Caliente	S1	1
		S2	1
CS1	Common Segment 1	S6	1
		S7	2
		S8	2
		S9	2
		S10	2
		S11	2
		S12	3
		S13	3
		S14	3
		S15	4
		S16	4
CS2	Common Segment 2	S20	4
		S21	4
CS3	Common Segment 3	S29	6
		S30	6
		S31	6
		S32	6
		S33	7
CS4	Common Segment 4	S38	9
CS5	Common Segment 5	S47	9
		S51	9
CS6	Common Segment 6	S53	10
		S56	10
		S57	10
		S58	11
		S59	11
		S60	11
		S61	11
		S62	11

Alignment Segment Symbol	Alignment Segment Name	Geomorphic Segment	Page
Eccles	Eccles	S3	12
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GF1	Goldfield 1	S33	7
		S34	7
		S35	7
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		S40	17
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GF4	Goldfield 4	S42	14
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		S46	15
GV1	Garden Valley 1	S16	4
GV2	Garden Valley 2	S18	13
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GV3	Garden Valley 3	S17	13
OV1	Oasis Valley 1	S51	9
		S52	10
OV3	Oasis Valley 3	S54	16
		S55	16
SR2	South Reveille 2	S24	13
SR3	South Reveille 3	S22	5
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		S25	5
		S26	5
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		S29	6

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
Caliente	S1	1000+00	1140+00	3	Bridge over Clover Creek at Station 1024+00. Three bridges over Meadow Valley Wash at Stations 1038+00, 1065+00, and 1135+00. In general, low embankment fills and cuts in Qay and Qc. Cuts to 50-feet-high where proposed track alignment intersects ridges of Tt3 and Ta3.	(1) Debris flows. (2) Embankment settlement in Qc. (3) Liquefaction/lateral spreading in Qc. (4) Bridge scour at piers and abutments of the Clover Creek and Meadow Valley Wash bridges. (5) Flooding.	Alluvium (Qc, Qay). Tertiary Fan Alluvium (Tf) Early Miocene rhyodacite to basaltic andesite volcanic rocks (Ta3). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V in Ta3, Tf, and Tt3. 2H:1V in Qay. 4H:1V in Qc.	2H:1V in Qay, Tf, Ta3, and Tt3. 4H:1V in Qc.	Excavated material may be suitable for reuse as embankment fill. Drilling and blasting required in Tf, Ta3, and Tt3. Qc may require special handling if used as embankment fill.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
Caliente	S2	1140+00	1581+48	2 – 3	Bridge over Meadow Valley Wash At Station 1530+00. Bridge over US Highway 93 at Station 1556+00. In general, low embankment fills except in the vicinity of the bridges, where the fills approach 30 feet in height. In general, low cuts, except in deposits of Ta3, where cuts 60- to 80-feet-high are anticipated.	(1) Debris flows. (2) Embankment settlement in Qc. (3) Liquefaction/lateral spreading in Qc. (4) Bridge scour at piers and abutments of the Meadow Valley Wash Bridge. (5) Flooding.	Alluvium (Qc, Qay). Tertiary Fan Alluvium (Tf). Panaca Formation (Tl). Early Miocene rhyodacite to basaltic andesite volcanic rocks (Ta3).	1H:1V in Tf and Ta3. 2H:1V in Qay. 3H:1V in Tl. 4H:1V in Qc.	2H:1V in Qay, Tf, and Ta3. 3H:1V in Tl. 4H:1V in Qc.	Excavated material may be suitable for reuse as embankment fill. Tl may require ripping. Drilling and blasting required in Tf and Ta3. Tl and Qc may require special handling if used as embankment fill.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 0.5 tsf in Tertiary lakebed deposits. 1 tsf in alluvial deposits. 10 tsf in rock.
CS1	S6	1581+48	2040+00	2 and 4	Cuts to 60 feet and fills to 65 feet in Tl and Qao.	(1) Debris flows.	Alluvium (Qay, Qao) Panaca Formation (Tl)	2H:1V in Qay and Qao. 3H:1V in Tl.	2H:1V in Qay and Qao. 3H:1V in Tl.	Excavated material may be suitable for reuse as embankment fill. Qao and Tl may require ripping. Tl may require special handling if used as embankment fill.	None anticipated	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation	Allowable bearing capacity: 0.5 tsf in Tertiary lakebed deposits. 1 tsf in alluvial deposits. 10 tsf in rock.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
CS1	S7	2040+00	2120+00	4	Cuts to 70 feet in Qao and Chp on the east side and crest of Bennett Pass.	(1) Debris flows. (2) Ground rupture along faults. (3) Rockfall hazards where alignment is in proximity to existing rock slopes.	Alluvium (Qao). Highland Peak Formation (Chp).	1H:1V in Chp. 2H:1V in Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Chp.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS1	S8	2120+00	2210+00	4 – 5	Cuts to 70 feet in Qao and Chp on the west side and crest of Bennett Pass.	(1) Debris flows. (2) Ground rupture along faults. (3) Rockfall hazards where alignment is in proximity to existing rock slopes.	Alluvium (Qao). Highland Peak Formation (Chp).	1H:1V in Chp. 2H:1V in Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Chp.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS1	S9	2210+00	2350+00	5	In general, minor cuts and fills. Fills to 70 feet in Qao.	(1) Debris flows. (2) Ground rupture along faults. (3) Rockfall hazards where alignment is in proximity to existing rock slopes.	Alluvium (Qao). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V Tt3. 2H:1V in Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tt3.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS1	S10	2350+00	3285+00	5 – 8	Cuts to 40 and fills to 65 feet in Qao. Fills to 30 feet in Qayf.	(1) Debris flows (2) Embankment settlement in soft subgrade soils. (3) Liquefaction/lateral spreading. (4) Formation of fissures in Qayf (5) Flooding.	Alluvium (Qayf, Qao). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V in Tt3, 2H:1V in Qao. 3H:1V in Qayf.	2H:1V in Qao, and Tt3. 3H:1V in Qayf.	Excavated material may be suitable for reuse as embankment fill. Qayf may require special handling if used as embankment fill. Qao may require ripping. Drilling and blasting required in Tt3.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits, except 0.5 tsf in Qayf.
CS1	S11	3285+00	3450+00	8	In general, low cuts and fills to 15 feet. Cuts to 35 feet in PPe between Station 3425+00 and 3450+00.	(1) Debris flows. (2) Rock slope failures in PPe.	Alluvium (Qao) Oligocene silicic ash-flow and ash-fall tuffs (Tt2). Tertiary Shingle Pass and monotony Tuffs (Tsm). Ely Limestone (PPe). Scotty Wash Quartzite and Chainman Shale (Msc).	1H:1V in Msc, PPe, Tsm, and Tt2. 2H:1V in Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Msc, PPe, Tsm, and Tt2.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
CS1	S12	3450+00	3620+00	8 – 9	Up to 80-foot-high fills in Ta3 and Qao between Station 3575+00 and 3620+00. Along the White River Fault between Station 3500+00 and 3575+00, 40- to 120-foot-high fills (and isolated 20-foot-high cuts) in Ta3, Tt3, and PPe. Approximately 130-foot-high fills and 90-foot-high cuts in PPe Between Station 3450+00 and 3500+00.	(1) Debris flows. (2) Rock slope failures. Low strength rock where the alignment traverses the White River Fault.	Alluvium (Qao). Early Miocene rhyodacite to basaltic andesite volcanic rocks (Ta3). Miocene-Oligocene silicic to intermediate tuffs (Tt3). Ely Limestone (PPe).	1H:1V in PPe, Ta3, and Tt3. 2H:1V in Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in PPe, Tt3, and Ta3.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Consider moving alignment westward into Tertiary volcanics or eastward into Ely Limestone to avoid a lengthy traverse along the White River Fault. Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS1	S13	3620+00	3810+00	9 – 10	Fairly rugged terrain along entire segment, with alternating cuts in excess of 100 feet and fills to 110 feet in Qao.	(1) Debris flows.	Alluvium (Qao) Tertiary Basin-Fill Sediments (Tsy).	2H:1V	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao and Tsy may require ripping.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits.
CS1	S14	3810+00	3910+00	10 – 11	2750-foot-long bridge crossing over the White River and Nevada State Highway 375 at station 3827+00. Fills to 50 feet in Tsy at west abutment.	(1) Debris flows. (2) Embankment settlement/cut slope instability in low strength channel alluvium and lake bed deposits. (3) Bridge scour at piers and abutments of the White River Bridge.	Alluvium (Qc). Tertiary Basin-Fill Sediments (Tsy) Tertiary lake beds (Tl).	2H:1V in Tsy. 3H:1V in Qc and Tl.	2H:1V Tsy. 3H:1V in Qc and Tl.	Tl may require ripping. Drilling and blasting required in Tsy. Qc and Tl may require special handling if used as embankment fill.	Drilled shafts/driven piles	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 0.5 tsf in Tertiary lakebed deposits. 1 tsf in alluvial deposits.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
CS1	S15	3910+00	5200+00	11 – 15	In general, cuts to less than 10 feet in Qao. Approximately 14,000-foot-long cut, maximum 70-foot-high cut in Qao centered at Station 4070+00. In general, fills to less than 30 feet in Qao. Occasional fills to 60 feet in Qao. Between Station 3910+00 and 3970+00 cuts to less than 10 feet and fills to 40 feet in Tsy and Qao.	(1) Debris flows.	Alluvium (Qao). Tertiary Basin-Fill Sediments (Tsy). Oligocene Shingle Pass Tuff, Needles Range Group, and related tuffs (Tsn).	1H:1V in Tsn. 2H:1V in Tsy and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao and Tsy may require ripping. Drilling and blasting required in Tsn.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS1 and GV1	S16	5200+00	6400+00	–15-18, 20-21	Low embankment fills less than 10 feet, however, between Stations 5270+00 and 5500+00 cuts and fills to 40 feet are required in Qay and Tsn.	(1) Debris flows. (2) Embankment settlement in Qayf.	Alluvium (Qc, Qay, Qayf, Qao). Oligocene Shingle Pass Tuff, Needles Range Group, and related tuffs (Tsn).	1H:1V in Tsn. 2H:1V in Qc, Qay and Qao. 3H:1V in Qayf.	2H:1V in Qc, Qay, Qao, and Tsn. 3H:1V in Qayf	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tsn. Qayf may require special handling if used as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits, except 0.5 tsf in Qayf. 10 tsf in rock.
CS2	S20	6400+00	6535+00	21 and 24	Approximately 9,000-foot-long, maximum 80-foot-high fill centered on Station 6470+00.	(1) Debris flows. (2) Ground rupture on faults.	Alluvium (Qay, Qao). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V in Tt3. 2H:1V in Qay, and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tt3.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS2	S21	6535+00	7410+00	24 – 27	Cuts to 40 feet and embankment fills to 60 feet. Approximately 8,000-foot-long cut, maximum 40-foot-high cut in Qay and Tt3 centered at Station 7210+00.	(1) Debris flows. (2) Rock slope failures. (3) Possible embankment erosion where railroad parallels wash between Stations 7400+00 and 7480+00. (4) Flooding.	Alluvium (Qay, Qao). Oligocene silicic ash-flow and ash-fall tuffs (Tt2). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V in Tt2 and Tt3. 2H:1V in Qay and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tt3 and Tt2.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.

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SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
SR3	S22	7410+00	7520+00	27	Generally low cuts and fills to 25 feet. Approximately 2,000-foot-long cut, maximum 30-foot-high cut in Ta3 centered at Station 7460+00. Bridge needed over pipeline near waypoint SM106. Bridge needed to cross wash near waypoint SM107.	(1) Debris flows. (2) Abutment and pier scour at possible at bridge over wash near SM107.	Alluvium (Qay, Qao). Early Miocene rhyodacite to basaltic andesite volcanic rocks (Ta3). Oligocene silicic ash-flow and ash-fall tuffs (Tt2).	1H:1V in Ta3 and Tt2. 2H:1V in Qay and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Ta3 and Tt2.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
SR3	S23	7520+00	8100+00	27 – 30	Low cuts and embankment fills. At Station 7635+00 Nevada State Highway 375 will pass over the alignment.	(1) Debris flows.	Alluvium (Qc, Qay, Qao).	2H:1V	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits.
SR3	S25	8100+00	8600+00	30 – 31	In general low cuts and embankment and fills. Approximately 10,000-foot-long, maximum 40-foot-high fill in Qao centered on Station 8400+00. Approximately 1,000-foot-long cut, maximum 50-foot-high cut in Ta2 centered at Station 8320+00.	(1) Debris flows.	Alluvium (Qay, Qao). Oligocene lava flows and intrusives of intermediate composition (Ta2).	1H:1V in Ta2. 2H:1V in Qay and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Ta2.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
SR3	S26	8600+00	9215+00	31 – 34	Low cuts and embankment fills.	(1) Debris flows.	Alluvium (Qao).	2H:1V.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits.
SR3	S27	9215+00	9480+00	34 – 35	In general, low cuts and embankment fills. Approximately 7,000-foot-long, maximum 70-foot-high cut in Qao centered on Station 9480+00.	(1) Debris flows. (2) Potential rockfall where alignment is in proximity to existing rock slopes.	Alluvium (Qao)	2H:1V.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
SR3	S28	9480+00	9760+00	35 – 36	Cuts up to 25 feet and fills to 80 feet in Qao. Cuts to 30 feet in Tt3.	(1) Debris flows.	Alluvium (Qc, Qao). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V in Tt3. 2H:1V in Qc and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tt3.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS3 and SR3	S29	9760+00	9960+00	36	Cuts to 50 feet in Qay. Cuts to 60 feet in Tt2. Fills to 50 feet in Qao. Low embankment fills elsewhere.	(1) Debris flows. (2) Rock slope failures. (3) Ground rupture along faults. (4) Rockfall where alignment is in proximity to existing rock slopes.	Alluvium (Qay, Qao) Miocene-Oligocene silicic to intermediate tuffs (Tt3). Oligocene ash-flow tuffs of intermediate composition (Tt2). Late Miocene intermediate lava flows and intrusive (Ta4).	1H:1V in Tt2, Tt3, and Ta4. 2H:1V in Qay and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tt2, Tt3, and Ta4.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS3	S30	9960+00	11270+00	36 – 42	In general, cuts to 10 feet and fills to 30 feet. In the vicinity of 9960+00, 50-foot cut in Ta4.	(1) Debris flows. (2) Embankment settlement in Qayf, and where alignment is adjacent to Qayf. (3) Potential mine subsidence near the Clifford mining district.	Alluvium (Qay, Qayf). Miocene-Oligocene silicic to intermediate tuffs (Tt3). Late Miocene intermediate lava flows and intrusives (Ta4).	1H:1V in Tt3 and Ta4. 2H:1V in Qay. 3H:1V in Qayf	2H:1V in Qay, Tt3, and Tt4. 3H:1V in Qayf.	Excavated material may be suitable for reuse as embankment fill. Drilling and blasting required in Ta4 and Tt3. Qayf may require special handling if used as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits, except 0.5 tsf in Qayf. 10 tsf in rock.
CS3	S31	11270+00	11500+00	42 – 43	Cuts and fills to 10 feet.	(1) Embankment settlement in Qayf. (2) Flooding.	Alluvium (Qay, Qayf)	2H:1V in Qay 3H:1V in Qayf	2H:1V in Qay 3H:1V in Qayf	Excavated material may be suitable for reuse as embankment fill. Qayf may require special handling if used as embankment fill.	None anticipated	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits, except 0.5 tsf in Qayf.
CS3	S32	11500+00	12255+00	43 – 45	Cuts and fills to 10 feet.	(1) Embankment settlement in Qayf. (2) Flooding.	Alluvium (Qay, Qayf)	2H:1V in Qay 3H:1V in Qayf	2H:1V in Qay 3H:1V in Qayf	Excavated material may be suitable for reuse as embankment fill. Qayf may require special handling if used as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits, except 0.5 tsf in Qayf.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
GF1, GF3, and CS3	S33	12255+00	12675+00	45 – 47	Cuts to 40 feet in Qao and Qay. Fills to 20 feet.	(1) Embankment settlement in Qayf. (2) Flooding.	Alluvium (Qay, Qayf, Qao). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V in Tt3. 2H:1V in Qay and Qao. 3H:1V in Qayf.	2H:1V in Qay , Qao, and Tt3. 3H:1V in Qayf	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tt3. Qayf may require special handling if used as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits, except 0.5 tsf in Qayf. 10 tsf in rock.
GF1	S34	12675+00	12925+00	48 – 49	Cuts to 30 feet in Tt3 and Qay. In general, fills to 60 feet.	(1) Rockfall. (2) Mine Subsidence. (3) Alignment passes near potentially unstable mine tailings.	Alluvium (Qay, Qao). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V in Tt3. 2H:1V in Qay and Qao.	2H:1V.	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tt3.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
GF1	S35	12925+00	13120+00	49 – 50	Approximately 13,000-foot-long, maximum 40-foot-high fill centered on Station 13040+00 (cut extends into segment S34).	(1) Highly variable rock mass engineering properties in the Miocene volcanic deposits (Ta3). (2) Rockfall. (3) Mine Subsidence. (4) Alignment passes near potentially unstable mine tailings. (5) Ground rupture along faults.	Alluvium (Qay). Early Miocene lava flows and intrusives of intermediate composition (Ta3).	2H:1V in Qay. 3H:1V in Ta3.	2H:1V in Qay. 3H:1V in Ta3.	Excavated material may be suitable for reuse as embankment fill. Because of the highly variable rock mass characteristics (degree of alteration) in Ta3, an average cut slope of 3H:1V is assumed. Ta3 in this area may not suitable as embankment fill material.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 0.5 tsf in hydrothermally altered Ta3. 1 tsf in alluvial deposits.

TABLE 6
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Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
GF1	S36	13120+00	13290+00	50	Approximately 1,000-foot-long, maximum 90-foot-high cut in Ta3 centered on Station 13200+00. Approximately 7,000-foot-long, maximum 120-foot-high cut in Ta3 centered on Station 13185+00 (cut extends into segment S35).	(1) Highly variable rock mass engineering properties in the Miocene volcanic deposits (Ta3). (2) Rockfall. (3) Mine subsidence. (4) Alignment passes near potentially unstable mine tailings. (5) Ground rupture along faults. (6) Debris flows.	Alluvium (Qay). Early Miocene lava flows and intrusives of intermediate composition (Ta3).	2H:1V in Qay. 3H:1V in Ta3.	2H:1V in Qay. 3H:1V in Ta3.	Excavated material may be suitable for reuse as embankment fill. Because of the highly variable rock mass characteristics (degree of alteration) in Ta3, an average cut slope of 3H:1V is assumed. Ta3 in this area may not suitable as embankment fill material.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 0.5 tsf in hydrothermally altered Ta3. 1 tsf in alluvial deposits.
GF1	S37	13290+00	13510+00	50 – 51	Cut to 15 feet in Tt3. In general, fills to 50 feet.	(1) Debris flows. (2) Highly variable rock mass engineering properties in the Miocene volcanic deposits (Ta3). (3) Ground rupture along faults.	Alluvium (Qay, Qao) Tuff of Stonewall Flat (Tst) Early Miocene lava flows and intrusives of intermediate composition (Ta3). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V in Tt3 and Tst 2H:1V in Qay and Qao. 3H:1V in Ta3	2H:1V in all deposits except Ta3. 3H:1V in Ta3.	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tt3 and Tst, and possibly in Ta3 if unaltered. Because of the highly variable rock mass characteristics (degree of alteration) in Ta3, an average cut slope of 3H:1V is assumed. Ta3 in this area may not suitable as embankment fill material.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 0.5 tsf in hydrothermally altered Ta3. 1 tsf in alluvial deposits. 10 tsf in rock.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
BC3, CS4, and GF1	S38	13510+00	14490+00	51 – 52; 56 – 58	Cuts to 15 in Tm and Qay. In general, fills 10 to 20 feet. Approximately 6,600-foot-long, maximum 35-foot-high fill centered on Station 13570+00.	(1) Debris flows. (2) Soft soils in Playa Deposits. (3) Flooding	Playa Deposits (Qp) Alluvium (Qc, Qay, Qao) Tuff of Stonewall Flay (Tst) Timber Mountain Group (Tm)	1H:1V in Tst and Tm. 2H:1V in Qc, Qay, and Qao. 4H:1V in Qp.	2H:1V in all deposits except Qp. 4H:1V in Qp.	Excavated material may be suitable for reuse as embankment fill. Qao may require may require ripping. Drilling and blasting required in Tm and Tst. Qp may require special handling if used as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 0.5 tsf in playa deposits. 1 tsf in alluvium. 10 tsf in rock.
CS5 and BC3	S47	14490+00	15590+00	57 – 62	Cuts in Tm to 50 feet at Station 15500+00, and to 30 feet at Station 14600+00. Cut to 50 feet in QTau at Station 15533+00. In general, fills to 10 feet. Approximately 7,500-foot-long, maximum 40-foot-high fill centered on 14640+00. Bridge crossing of Tolicha Wash at Station 15370+00.	(1) Debris flows. (2) Rock slope failures and potential scour at bridge piers and abutments in Tolicha Wash. (3) Numerous faults observed at Station 14520+00 t0 14490+00; expect low strength rock. (4) Ground rupture along faults.	Eolian Deposits (Qe) Alluvium (Qc, Qay, QTau) Quaternary-Tertiary Basalt (QTb) Timber Mountain Group (Tm)	1H:1V in QTb and Tm. 2H:1V in Qe, Qc, Qay, and QTau.	2H:1V	Excavated material may be suitable for reuse as embankment fill. QTau may require ripping. Drilling and blasting required in QTb and Tm.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Allowable bearing capacity: 1 tsf in alluvial and eolian deposits. 10 tsf in rock.
OV1 and CS5	S51	15590+00	16285+00	61 – 64	Cuts to 20 feet in Tsy, QTau, and Qay. Fills to 20 feet.	(1) Debris flows. (2) Potentially soft playa deposits (Qp) in the vicinity of Station 15900+00, and between 15800+00 and 15760+00.	Eolian Deposits (Qe) Alluvium (Qay, Qam, QTau) Playa Deposits (Qp) Tertiary Sediments (Tsy)	1H: 1V in Tsy. 2H:1V in Qe, Qay, Qam, and QTau. 4H:1V in Qp.	2H:1V in all deposits except Qp. 4H:1V in Qp.	Excavated material may be suitable for reuse as embankment fill. Drilling and blasting required in Tsy. Qam and QTau may require ripping. Qp may require special handling if used as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 1 tsf in playa deposits. 10 tsf in rock.

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Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
OV1	S52	16285+00	16450+00	64 - 65	Cuts to 20 feet in Tsy and Qam. Fills to 30 feet. Two 150-foot-long bridges will be required to cross the Amargosa River floodplain at Stations 16397+00 and 16372+00.	(1) Debris flows. (2) Braided channel development. (3) Potential scour at bridge piers and abutments.	Eolian Deposits (Qe) Alluvium (Qc, Qay, Qam) Quaternary-Tertiary Colluvium (QTc) Tertiary Sediments (Tsy) Forty Mile Volcanics (Tfv)	1H: 1V in Tsy and Tfv. 2H:1V in Qe, Qc, Qay, Qam, and QTc.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qam may require ripping. Drilling and blasting required in Tsy and Tfv.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 1 tsf in alluvial and eolian deposits. 10 tsf in rock.
CS6	S53	16450+00	16600+00	65	Cuts to 20 feet in Tsy.	(1) Debris flows.	Alluvium (Qay, Qam, QTau) Tertiary Sediments (Tsy)	1H:1V in Tsy. 2H:1V in Qay, Qam, and QTau	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qam and QTau may require ripping. Drilling and blasting required in Tsy.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS6	S56	16600+00	16700+00	65 – 66	Cuts to 10 feet and fills to 50 feet.	(1) Debris flows.	Alluvium (Qay, QTau) Ammonia Tanks and Rainier Mesa Tuffs (Tmar) Tertiary Sediments (Tsy)	1H:1V in Tsy and Tmar. 2H:1V in Qay and QTau.	2H:1V	Excavated material may be suitable for reuse as embankment fill. QTau may require ripping. Drilling and blasting required in Tsy and Tmar.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
CS6	S57	16700+00	16820+00	66	Cuts in Tmrf and Tp to 140 feet. Fills to 110 feet. A 1200-foot-long, 145-foot-high bridge will be required to cross Beatty Wash at Station 16703+00.	(1) Rock slope failure from heavily faulted, steep terrain. (2) Ground rupture along faults. (3) Potential scour from bridge abutments and piers.	Alluvium (Qc) Tertiary Sediments (Tsy) Paintbrush Group (Tp) Crater Flat Group (Tc) Rhyolite of Fluorspar Canyon (Tmrf) Ammonia Tanks and Rainier Mesa Tuffs (Tmar)	1H:1V in Tp, Tc, Tsy, Tmrf, and Tmar 2H:1V in Qc	2H:1V	Excavated material may be suitable for reuse as embankment fill. Drilling and blasting required in Tp, Tc, Tsy, Tmrf, and Tmar.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
CS6	S58	16820+00	17020+00	66 – 67	Cuts to 25 feet in Tp, Tmrf, and Qao. Fills to 35 feet.	(1) Debris flows. (2) Landsliding. (3) Ground rupture along faults.	Alluvium (Qam, Qao) Quaternary-Tertiary Landslide (QTls) Paintbrush Group (Tp) Fluorspar Canyon Rhyolite (Tmrf)	1H:1V in Tp and Tmrf 2H:1V in Qam and Qao 3H:1V in QTls	2H:1V in Tp, Tmrf, Qao, and Qam 3H:1V in QTls	Excavated material may be suitable for reuse as embankment fill. Qam and Qao may require ripping. Drilling and blasting required in Tp and Tmrf. Landslide debris (QTls) is assumed to not be suitable as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Culverts in landslide area should extend to the toe of the slope. Allowable bearing capacity: 1 tsf in alluvial and landslide (QTls) deposits. 10 tsf in rock.
CS6	S59	17020+00	17550+00	67 – 69	Cuts to 35 feet and fills to 50 feet.	(1) Ground rupture potential associated with the Fatigue Wash and Windy Wash Faults and other unnamed faults. (2) Debris flows.	Eolian Deposits (Qe) Alluvium (Qay, Qam, Qao) Paintbrush Group (Tp). Fluorspar Canyon Rhyolite (Tmrf).	1H:1V in Tp and Tmrf . 2H:1V in Qe, Qay, Qam, and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qam and Qao may require ripping. Tp and Tmrf will require drilling and blasting.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial and eolian deposits. 10 tsf in rock.
CS6	S60	17550+00	17750+00	69 – 70	Fills to 50 feet and cuts to 40 feet.	(1) Crosses sheared and low-strength rock in fault zones. (2) Ground rupture along faults. (3) Debris flows.	Eolian Deposits (Qe) Alluvium (Qay, Qam, Qao) Paintbrush Group (Tp)	1H:1V in Tp. 2H:1V in Qe, Qay, Qam, and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qam and Qao may require ripping. Tp will require drilling and blasting.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial and eolian deposits. 10 tsf in rock.
CS6	S61	17750+00	18120+00	70 – 71	Generally fills up to 20 feet. Cut to 60 feet through a ridge in Tp in the vicinity of Station 17830+00. Approximately 6,000-foot-long, maximum 100-foot-high fill centered on station 18078+00.	(1) Crosses sheared and low-strength rock in fault zones. (2) Ground rupture along faults. (3) Debris flows.	Eolian Deposits (Qe) Alluvium (Qay, Qam) Paintbrush Group (Tp)	1H:1V in Tp. 2H:1V in Qe, Qay, and Qam.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qam may require ripping. Drilling and blasting required in Tp.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial and eolian deposits. 10 tsf in rock.
CS6	S62	18120+00	18192+88 (EOL)	71	Cuts to 40 feet and fills to 25 feet.	(1) Ground rupture along faults.	Alluvium (Qay, Qam)	2H:1V	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qam may require ripping.	None anticipated.	None anticipated.	Allowable bearing capacity: 1 tsf in alluvial deposits.

TABLE 6
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Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
Eccles	S3	20000+00	20130+00	1	In general, low cuts and embankment fills. 50-foot-high cut in Tt3 between approximate stations 20065+00 and 20075+00. Bridge over Clover Creek at Station 20010+00. Bridge over tributary to Clover Creek at Station 20040+00.	(1) Debris flows. (2) Bridge scour at piers and abutments of the Clover Creek and Clover Creek Tributary bridges. (3) Flooding.	Alluvium (Qay) Tertiary Sedimentary Rocks (Tsy). Panaca Formation (Tl). Miocene-Oligocene silicic to intermediate tuffs (Tt3).	1H:1V in Tt3 and Tsy. 2H:1V in Qay. 3H:1V in Tl.	2H:1V in Qay, Tsy, and Tt3. 3H:1V in Tl.	Excavated material may be suitable for reuse as embankment fill. Tl may require ripping. Drilling and blasting required in Tsy and Tt3. Tl may require special handling if used as embankment fill.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 0.5 tsf in Tertiary lakebed deposits. 1 tsf in alluvial deposits. 10 tsf in rock.
Eccles	S4	20130+00	20390+00	1 – 2	Cuts to 20 feet and fills to 50 feet in Qay and Tl between Station 20250+00 and 20390+00. 40- to 80-foot-high cuts in Tl between Station 20130+00 and 20250+00.	(1) Debris flows. (2) Fault rupture. (3) Flooding.	Alluvium (Qay). Panaca Formation (Tl).	2H:1V in Qay. 3H:1V in Tl.	2H:1V in Qay. 3H:1V in Tl.	Excavated material may be suitable for reuse as embankment fill. Tl may require ripping. Tl may require special handling if used as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 0.5 tsf in Tertiary lakebed deposits. 1 tsf in alluvial deposits.
Eccles	S5	20390+00	20616+51	2	Cuts and fills to 40 feet. Bridge over Meadow Valley Wash At Station 20570+00. Bridge over US Highway 93 at Station 20600+00.	Debris flows. Embankment settlement in Qc Liquefaction/lateral spreading in Qc. Bridge scour at piers and abutments of the Meadow Valley Wash Bridge. Flooding.	Alluvium (Qc, Qay). Panaca Formation (Tl).	2H:1V in Qay. 3H:1V in Tl. 4H:1V in Qc.	2H:1V in Qay. 3H:1V in Tl. 4H:1V in Qc.	Excavated material may be suitable for reuse as embankment fill. Tl may require ripping. Qc and Tl may require special handling if used as embankment fill.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 0.5 tsf in Tertiary lakebed deposits. 1 tsf in alluvial deposits.

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Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
GV2	S18	28000+00	28245+00	15 – 16	Low cuts and embankment fills.	(1) Embankment settlement in Qayf. (2) Flooding.	Alluvium (Qayf, Qay, Qao)	2H:1V in Qay and Qao. 3H:1V in Qayf.	2H:1V in Qay and Qao. 3H:1V in Qayf.	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Qayf may require special handling if used as embankment fill.	None anticipated	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits, except 0.5 tsf in Qayf.
GV2	S19	28245+00	29177+75	16, 22 – 23, 20-21	Low cuts and embankment fills.	(1) Debris flows. (2) Possible embankment erosion where corridor parallels or crosses Cherry Creek between 28350+00 and 28420+00. (3) Bridge pier and abutment scour possible at Cherry Creek bridge.	Alluvium (Qc, Qay, Qao). Ely Limestone (PPe)	1H:1V in PPe 2H:1V in Qc, Qay, and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Drilling and blasting required in PPe. Qao may require ripping.	Drilled shafts/driven piles.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
GV3	S17	30000+00	31016+06	17 – 21	Cuts to 30 feet and fills 35 feet. Though not indicated in the NRP Rev. 11 Alignment Plan and Profiles, a bridge may be required over Cherry Creek near Station 30420+00.	(1) Debris flows. (2) Bridge pier and abutment scour possible at Cherry Creek bridge.	Alluvium (Qc, Qay, Qao)	2H:1V	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 1 tsf in alluvial deposits.
SR2	S24	36000+00	36478+07	30 – 31	Cuts to 30 feet fills to 40 feet.	(1) Debris flows. (2) Potential rockfall where alignment is in proximity to existing rock slopes. (3) Possible embankment erosion where railroad parallels wash between Stations 36150+00 and 36100+00.	Alluvium (Qay, Qao). Quaternary-Tertiary Basalt (QTb). Oligocene lava flows and intrusives of intermediate composition (Ta2).	1H:1V in QTb and Ta2. 2H:1V in Qay and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in QTb and Ta2.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
GF4	S42	42000+00	42370+00	46 – 47	In general, minor cuts. Approximately 4,000-foot-long, maximum 35-foot-high cut in Qao and Qay centered on Station 42230+00. Fills to 20 feet.	(1) Embankment scour in washes. (2) Rockfall where alignment is in proximity to existing rock slopes.	Alluvium (Qay, Qao). Quaternary-Tertiary basalt (QTb). Miocene-Oligocene silicic to intermediate tuffs (Tt3). Early Miocene lava flows and intrusives of intermediate composition (Ta3).	2H:1V in Qay and Qao. 1H:1V in QTb, Tt3, and Ta3.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in QTb,Tt3 and Ta3.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
GF4	S43	42370+00	42670+00	47 – 48, 53	Cut to 15 feet in Tsy. Fills to 20 feet. Approximately 7,000-foot-long, maximum 50-foot-high fill centered on Station 42650+00 (fill extends into segment S44). Bridge over US Highway 95 at Station 42660+00.	(1) Mine subsidence. (2) Debris flows. (3) Rockfall where alignment is in proximity to existing rock slopes.	Alluvium (Qc, Qay, Qao) Quaternary-Tertiary Basalt (QTb) Siebert Tuff (Tsy)	1H:1V in QTb, and Tsy. 2H:1V in Qc, Qay, and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in QTb and Tsy.	Drilled shafts/driven piles.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
GF4	S44	42670+00	42970+00	53 – 54	Cut to 20 feet in QTa. Fills to 30 feet. Approximately 7,000-foot-long, maximum 50-foot-high fill centered on Station 42650+00 (fill extends into segment S43). Bridge over US Highway 95 at Station 42970+00.	(1) Mine subsidence. (2) Ground rupture along faults. (3) Rockfall where alignment is in proximity to existing rock slopes. (4) Mine subsidence. (5) Shallow groundwater in proximity to existing springs.	Alluvium (Qay, QTa) Rabbit Springs Formation and Siebert Tuff (Tsy)	1H:1V in Tsy. 2H:1V in Qay and QTa.	2H:1V	Excavated material may be suitable for reuse as embankment fill. QTa may require ripping. Drilling and blasting required in Tsy.	Drilled shafts/driven piles.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.

TABLE 6
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Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
GF4	S45	42970+00	43235+00	54 – 55	In general, cuts to 50 feet in Tst, Tsy, and QTb. Approximately 6,000-foot-long, maximum 100-foot-high cut in Tsy centered on Station 43020+00. Fills to 35 feet. Bridge over US Highway 95 at Station 42970+00.	(1) Mine subsidence. (2) Ground rupture along faults. (3) Rockfall where alignment is in proximity to existing rock slopes. (4) Embankment scour where track parallels existing channels.	Alluvium (Qay). Mira Basalt (QTb) Tertiary Sediments (Tsy). Tuff of Stonewall Flat (Tst). Miocene-Oligocene silicic to intermediate tuffs (Tt3). Early Miocene lava flows and intrusives of intermediate composition (Ta3).	1H:1V in QTb, Tsy, Tst, Tt3, and Ta3. 2H:1V in Qay.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Drilling and blasting will be required in QTb, Tsy, Tst, Tt3, and Ta3.	Drilled shafts/driven piles.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
GF4	S46	43235+00	43712+85	55, 51 – 52	Cuts to 40 feet in Tst and fills to 40 feet.	(1) Debris flows (2) Scour from ephemeral channel flow. (3) Rockfall where alignment is in proximity to existing rock slopes.	Alluvium (Qc, Qay, Qao). Tuff of Stonewall Flat (Tst).	1H:1V in Tst. 2H:1V Qc, Qay, and Qao.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tst.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
BC2	S48	44000+00	44190+00	56 – 57	Cut to 20 feet in Qay. Approximately 15,000-foot-long, maximum 20-foot-high fill centered on Station 44080+00.	(1) Debris flows.	Alluvium (Qay)	2H:1V	2H:1V	Excavated material may be suitable for reuse as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits.
BC2	S49	44190+00	44325+00	57	Cut to 100 feet in Tm. Cut to 50 feet in Qay. Fills to 45 feet.	(1) Debris flows. (2) Embankment scour where alignment parallels existing channels. (3) Rockfall from existing and new slopes.	Alluvium (Qc, Qay) Timber Mountain Group (Tm)	1H:1V in Tm. 2H:1V in Qc and Qay	2H:1V	Excavated material may be suitable for reuse as embankment fill. Drilling and blasting required in Tm.	None anticipated	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
BC2	S50	44325+00	44958+76	57 – 60	In general, cuts to 5 feet and fills to 10 feet. Approximately 10, 000-foot-long, maximum 25-foot-high cut in alluvium centered on Station 44550+00.	(1) Debris flows. (2) Embankment scour where track parallels existing channels. (3) Rockfall where alignment is in proximity to existing rock slopes.	Alluvium (Qc, Qay, Qayf, QTau)	2H:1V in Qc, Qay, and QTau 3H:1V in Qayf	2H:1V in Qc, Qay and QTau. 3H:1V in Qayf.	Excavated material may be suitable for reuse as embankment fill. QTau may require ripping. Qayf may require special handling if used as embankment fill.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits, except 0.5 tsf in Qayf.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
OV3	S54	46000+00	46230+00	64	Cuts to 50 feet in Tsy and alluvium. Fills to 35 feet. Bridge over thirsty canyon at Station 46190+00.	(1) Debris flows. (2) Braided channel development. (3) Potential scour at bridge piers and abutments.	Alluvium (Qc, Qay, Qam, Qao, QTau) Colluvium (QTc) Tertiary Basin-Fill Sediments (Tsy)	1H:1V in Tsy. 2H:1V in Qc, Qay, Qam, Qao, QTau and QTc.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qam, Qao, and QTau may require ripping.	Drilled shafts/driven piles.	(1) Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation. (2) Bridge abutment and pier scour protection and floodplain protection only.	Drilled shafts may be more appropriate than driven piles if significant amounts of cobbles and boulders are anticipated in the subsurface. Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
OV3	S55	46230+00	46470+48	64 – 65	Cuts to 40 feet in Tsy and alluvium. Fills to 40 feet.	(1) Debris flows. (2) Braided channel development.	Alluvium (Qc, Qay, Qam, QTau) Tertiary Basin-Fill Sediments (Tsy)	1H:1V in Tsy. 2H:1V in Qc, Qay, Qam, and QTau).	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qam and QTau may require ripping. Drilling and blasting required in Tsy.	None anticipated	Riprap protection at culvert inlets and outlets and in stream channels below 100-year-flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.
GF3	S39	52000+00	52650+00	46 – 49	Generally cut–and-fills to 50 feet. Local cuts and fills to 110 feet.	(1) Rockfall. (2) Ground rupture along faults. Possible Quaternary ground rupture present in vicinity of Sta. 52642+00 to 52630+00. (3) Possible embankment erosion where corridor parallels or crosses washes.	Alluvium (Qay, Qao) Quaternary–Tertiary basalt (QTb). Rhyolite of Wildhorse Spring (Tvr). Early Miocene sedimentary rocks (Tso).	1H:1V in QTb, and Tvr. 2H:1V in Qay, Qao, and Tsy.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in QTb, Tso, and Tvr.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.

TABLE 6
SUMMARY OF PRELIMINARY ENGINEERING RECOMMENDATIONS ALONG ALIGNMENTS

Alignment Segment	Geomorphic Segment	Station		Figure 3 Sheet(s)	Proposed Construction[1] (Cuts, Fills, and Bridges)	Potential Geologic Hazard(s)	Surficial Geologic Unit(s)	Earthwork Recommendations			Recommendations for Structures		
		From	To					Cut Slopes	Fill Slopes	Additional Recommendations	Foundation Support	Erosion Protection	Additional Recommendations
GF3	S40	52650+00	53085+00	49 – 50	Generally cuts and fills to 50 feet. Locally, cuts and fills to 90 feet.	(1) Highly variable rock mass engineering properties in the Miocene volcanic deposits (Ta3). (2) Rockfall hazard where alignment is in proximity to existing slopes and new cut slopes. (3) Debris flows. (4) Ground rupture along faults. (5) Mine Subsidence.	Alluvium (Qay, Qao). Early Miocene sedimentary rocks (Tso). Rhyolite of Wildhorse Spring (Tvr). Early Miocene rhyodacite to basaltic andesite volcanic rocks (Ta3).	1H:1V in Tvr, and Tso. 2H:1V in Qay and Qao. 3H:1V in Ta3.	2H:1V in Qay, Qao, Tso, and Tvr. 3H:1V in Ta3	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tso and Tvr. Because of the highly variable rock mass characteristics (degree of alteration) in Ta3, average cut slopes and embankment slopes of 3H:1V are assumed. Flatter cut and fill slopes may be required in Qay in proximity to Mud Lake. Ta3 in this area may not suitable as embankment fill material.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 0.5 tsf in hydrothermally altered Ta3. 1 tsf in alluvial deposits. 10 tsf in rock.
GF3	S41	53085+00	53224+49	50 – 51	Generally Cuts and fills to 30 feet. Fills to 40 feet in washes.	(1) Mine Subsidence. (2) Rockfall.	Alluvium (Qay, Qao) Miocene-Oligocene silicic to intermediate tuffs (Tt3).	2H:1V in Qay and Qao. 1H:1V in Tt3.	2H:1V	Excavated material may be suitable for reuse as embankment fill. Qao may require ripping. Drilling and blasting required in Tt3.	None anticipated.	Riprap protection at culvert inlets and outlets and in stream channels below 100-year flood elevation.	Allowable bearing capacity: 1 tsf in alluvial deposits. 10 tsf in rock.

Note: (1) Locations and geometries of excavations, embankments, and bridges are based on the engineered plan and profile set dated 22 July 2005 (Nevada Rail Partners, 2005b).

TABLE 7
PRELIMINARY RECOMMENDATIONS FOR CUT AND FILL SLOPES AND EXCAVATION METHODS BY STATION INTERVAL

Alignment Segment	Station		Figure 3 Sheet(s)	Surficial Geologic Unit	Earthwork Recommendations		
	From	To			Cut Slopes	Fill Slopes	Excavation Method
Caliente	1000+00	1117+00	3	Qc	4H:1V	4H:1V	Conventional Excavation
Caliente	1117+00	1135+00	3	Qay	2H:1V	2H:1V	Conventional Excavation
Caliente	1135+00	1148+00	3	Ta3	1H:1V	2H:1V	Drilling and Blasting
Caliente	1148+00	1170+00	3	Qc	4H:1V	4H:1V	Conventional Excavation
Caliente	1170+00	1176+00	3	Ta3	1H:1V	2H:1V	Drilling and Blasting
Caliente	1176+00	1495+00	2 - 3	Qc	4H:1V	4H:1V	Conventional Excavation
Caliente	1495+00	1525+00	2	Qay	2H:1V	2H:1V	Conventional Excavation
Caliente	1525+00	1556+00	2	Qc	4H:1V	4H:1V	Conventional Excavation
Caliente	1556+00	1565+00	2	Qay	2H:1V	2H:1V	Conventional Excavation
Caliente	1565+00	1581+48	2	Tl	3H:1V	3H:1V	Ripping
CS1	1581+48	1612+00	3	Tl	3H:1V	3H:1V	Ripping
CS1	1612+00	1618+00	2	Qay	2H:1V	2H:1V	Conventional Excavation
CS1	1618+00	1753+00	2 and 4	Tl	3H:1V	3H:1V	Ripping
CS1	1753+00	1808+00	4	Qao	2H:1V	2H:1V	Ripping
CS1	1808+00	1823+00	4	Tl	3H:1V	3H:1V	Ripping
CS1	1823+00	1846+00	4	Qao	2H:1V	2H:1V	Ripping
CS1	1846+00	1881+00	4	Tl	3H:1V	3H:1V	Ripping
CS1	1881+00	2047+00	4	Qao	2H:1V	2H:1V	Ripping
CS1	2047+00	2116+00	4	Chp	1H:1V	2H:1V	Drilling and Blasting
CS1	2116+00	2133+00	4 - 5	Qao	2H:1V	2H:1V	Ripping
CS1	2133+00	2141+00	4 - 5	Chp	1H:1V	2H:1V	Drilling and Blasting
CS1	2141+00	2220+00	5	Qao	2H:1V	2H:1V	Ripping
CS1	2220+00	2232+00	5	Tt3	1H:1V	2H:1V	Drilling and Blasting
CS1	2232+00	2762+00	5 - 6	Qao	2H:1V	2H:1V	Ripping
CS1	2762+00	2995+00	6 - 7	Qayf	3H:1V	3H:1V	Conventional Excavation
CS1	2995+00	3294+00	7 - 8	Qao	2H:1V	2H:1V	Ripping
CS1	3294+00	3303+00	8	Tsm	1H:1V	2H:1V	Drilling and Blasting
CS1	3303+00	3323+00	8	Qao	2H:1V	2H:1V	Ripping
CS1	3323+00	3333+00	8	Tt2	1H:1V	2H:1V	Drilling and Blasting
CS1	3333+00	3370+00	8	Qao	2H:1V	2H:1V	Ripping
CS1	3370+00	3385+00	8	Msc	1H:1V	2H:1V	Drilling and Blasting
CS1	3385+00	3404+00	8	Tt2	1H:1V	2H:1V	Drilling and Blasting
CS1	3404+00	3411+00	8	Qao	2H:1V	2H:1V	Ripping
CS1	3411+00	3419+00	8	Tt2	1H:1V	2H:1V	Drilling and Blasting
CS1	3419+00	3424+00	8	Qao	2H:1V	2H:1V	Ripping
CS1	3424+00	3576+00	8 - 9	Ppe	1H:1V	2H:1V	Drilling and Blasting
CS1	3576+00	3604+00	9	Ta3	1H:1V	2H:1V	Drilling and Blasting
CS1	3604+00	3807+00	9 - 10	Qao	2H:1V	2H:1V	Ripping
CS1	3807+00	3815+00	10	Tsy	2H:1V	2H:1V	Drilling and Blasting
CS1	3815+00	3834+00	10	Qc	3H:1V	3H:1V	Conventional Excavation
CS1	3834+00	3849+00	10	Tsy	2H:1V	2H:1V	Drilling and Blasting
CS1	3849+00	3858+00	10	Tl	3H:1V	3H:1V	Ripping
CS1	3858+00	3954+00	10 - 11	Tsy	2H:1V	2H:1V	Drilling and Blasting
CS1	3954+00	4946+00	11 - 14	Qao	2H:1V	2H:1V	Conventional Excavation
CS1	4946+00	4952+00	14	Tsn	1H:1V	2H:1V	Drilling and Blasting
CS1	4952+00	5253+00	14 - 16	Qao	2H:1V	2H:1V	Conventional Excavation
CS1	5253+00	5288+00	16	Qayf	2H:1V	2H:1V	Conventional Excavation
CS1	5288+00	5438+87	16 - 17	Qay	2H:1V	2H:1V	Conventional Excavation
GV1	5438+87	5465+00	17	Qay	2H:1V	2H:1V	Conventional Excavation
GV1	5465+00	5495+00	17	Tsn	1H:1V	2H:1V	Drilling and Blasting
GV1	5495+00	5582+00	17	Qay	2H:1V	2H:1V	Conventional Excavation
GV1	5582+00	5587+00	17	Qc	2H:1V	2H:1V	Conventional Excavation
GV1	5587+00	6324+00	17 - 18, 20 - 21	Qao	2H:1V	2H:1V	Ripping
GV1	6324+00	6400+00	21	Qay	2H:1V	2H:1V	Conventional Excavation
CS2	6400+00	6414+00	21	Qay	2H:1V	2H:1V	Conventional Excavation
CS2	6414+00	6534+00	21 and 24	Tt3	1H:1V	2H:1V	Drilling and Blasting
CS2	6534+00	6540+00	24	Tt2	1H:1V	2H:1V	Drilling and Blasting
CS2	6540+00	6685+00	24	Qao	2H:1V	2H:1V	Conventional Excavation
CS2	6685+00	6732+00	24	Tt3	1H:1V	2H:1V	Drilling and Blasting
CS2	6732+00	6823+00	24 - 25	Qao	2H:1V	2H:1V	Conventional Excavation
CS2	6823+00	6945+00	25	Qay	2H:1V	2H:1V	Conventional Excavation
CS2	6945+00	6965+00	25	Tt3	1H:1V	2H:1V	Drilling and Blasting
CS2	6965+00	7007+00	25	Qay	2H:1V	2H:1V	Conventional Excavation

TABLE 7
PRELIMINARY RECOMMENDATIONS FOR CUT AND FILL SLOPES AND EXCAVATION METHODS BY STATION INTERVAL

Alignment Segment	Station		Figure 3 Sheet(s)	Surficial Geologic Unit	Earthwork Recommendations		
	From	To			Cut Slopes	Fill Slopes	Excavation Method
CS2	7007+00	7017+00	25	Tt3	1H:1V	2H:1V	Drilling and Blasting
CS2	7017+00	7026+00	25	Qay	2H:1V	2H:1V	Conventional Excavation
CS2	7026+00	7043+00	25	Tt3	1H:1V	2H:1V	Drilling and Blasting
CS2	7043+00	7166+00	25 - 26	Qay	2H:1V	2H:1V	Conventional Excavation
CS2	7166+00	7222+00	26	Tt3	1H:1V	2H:1V	Drilling and Blasting
CS2	7222+00	7313+00	26 - 27	Qay	2H:1V	2H:1V	Conventional Excavation
CS2	7313+00	7410+00	27	Tt2	1H:1V	2H:1V	Drilling and Blasting
SR3	7410+00	7423+00	27	Tt2	1H:1V	2H:1V	Drilling and Blasting
SR3	7423+00	7445+00	27	Ta3	1H:1V	2H:1V	Drilling and Blasting
SR3	7445+00	7452+00	27	Tt2	1H:1V	2H:1V	Drilling and Blasting
SR3	7452+00	7485+00	27	Ta3	1H:1V	2H:1V	Drilling and Blasting
SR3	7485+00	7505+00	27	Qay	2H:1V	2H:1V	Conventional Excavation
SR3	7505+00	7595+00	27 - 28	Qao	2H:1V	2H:1V	Conventional Excavation
SR3	7595+00	7870+00	28 - 29	Qay	2H:1V	2H:1V	Conventional Excavation
SR3	7870+00	7896+00	29	Qc	2H:1V	2H:1V	Conventional Excavation
SR3	7896+00	8209+00	29 - 30	Qay	2H:1V	2H:1V	Conventional Excavation
SR3	8209+00	8238+00	30	Qao	2H:1V	2H:1V	Ripping
SR3	8238+00	8358+00	30	Ta2	1H:1V	2H:1V	Drilling and Blasting
SR3	8358+00	9647+00	30 - 35	Qao	2H:1V	2H:1V	Ripping
SR3	9647+00	9653+00	35	Qc	2H:1V	2H:1V	Conventional Excavation
SR3	9653+00	9718+00	35	Qao	2H:1V	2H:1V	Ripping
SR3	9718+00	9749+00	35 - 36	Tt3	1H:1V	2H:1V	Drilling and Blasting
SR3	9749+00	9795+00	35 - 36	Qao	2H:1V	2H:1V	Ripping
SR3	9795+00	9800+00	36	Tt2	1H:1V	2H:1V	Drilling and Blasting
CS3	9800+00	9804+00	36	Tt2	1H:1V	2H:1V	Drilling and Blasting
CS3	9804+00	9812+00	36	Qao	2H:1V	2H:1V	Conventional Excavation
CS3	9812+00	9883+00	36	Tt2	1H:1V	2H:1V	Drilling and Blasting
CS3	9883+00	9905+00	36	Qay	2H:1V	2H:1V	Conventional Excavation
CS3	9905+00	9917+00	36	Tt3	1H:1V	2H:1V	Drilling and Blasting
CS3	9917+00	9953+00	36	Qay	2H:1V	2H:1V	Conventional Excavation
CS3	9953+00	10006+00	36	Ta4	1H:1V	2H:1V	Drilling and Blasting
CS3	10006+00	10018+00	36 - 37	Qay	2H:1V	2H:1V	Conventional Excavation
CS3	10018+00	10037+00	36 - 37	Tt3	1H:1V	2H:1V	Drilling and Blasting
CS3	10037+00	10094+00	37	Qay	2H:1V	2H:1V	Conventional Excavation
CS3	10094+00	10102+00	37	Ta4	1H:1V	2H:1V	Drilling and Blasting
CS3	10102+00	11206+00	37 - 42	Qay	2H:1V	2H:1V	Conventional Excavation
CS3	11206+00	11211+00	42	Qayf	3H:1V	3H:1V	Conventional Excavation
CS3	11211+00	11340+00	42	Qay	2H:1V	2H:1V	Conventional Excavation
CS3	11340+00	11373+00	42	Qayf	3H:1V	3H:1V	Conventional Excavation
CS3	11373+00	11483+00	42 - 43	Qay	2H:1V	2H:1V	Conventional Excavation
CS3	11483+00	11573+00	43	Qayf	3H:1V	3H:1V	Conventional Excavation
CS3	11573+00	11933+00	43 - 44	Qay	2H:1V	2H:1V	Conventional Excavation
CS3	11933+00	12295+00	44 - 45	Qayf	3H:1V	3H:1V	Conventional Excavation
CS3	12295+00	12334+64	44 - 45	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	12334+64	12450+00	46	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	12450+00	12456+00	46	Qao	2H:1V	2H:1V	Ripping
GF1	12456+00	12563+00	46 - 47	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	12563+00	12646+00	47	Qao	2H:1V	2H:1V	Ripping
GF1	12646+00	12656+00	47	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	12656+00	12683+00	47 - 48	Qao	2H:1V	2H:1V	Ripping
GF1	12683+00	12698+00	48	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	12698+00	12734+00	48	Qao	2H:1V	2H:1V	Ripping
GF1	12734+00	12758+00	48	Tt3	1H:1V	2H:1V	Drilling and Blasting
GF1	12758+00	12771+00	48	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	12771+00	12804+00	48	Tt3	1H:1V	2H:1V	Drilling and Blasting
GF1	12804+00	12824+00	48	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	12824+00	12858+00	48	Tt3	1H:1V	2H:1V	Drilling and Blasting
GF1	12858+00	12866+00	48	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	12866+00	12891+00	48 - 49	Tt3	1H:1V	2H:1V	Drilling and Blasting
GF1	12891+00	12918+00	49	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	12918+00	12926+00	49	Tt3	1H:1V	2H:1V	Drilling and Blasting
GF1	12926+00	13025+00	49	Ta3	3H:1V	3H:1V	Conventional Excavation
GF1	13025+00	13039+00	49	Qay	2H:1V	2H:1V	Conventional Excavation

TABLE 7
PRELIMINARY RECOMMENDATIONS FOR CUT AND FILL SLOPES AND EXCAVATION METHODS BY STATION INTERVAL

Alignment Segment	Station		Figure 3 Sheet(s)	Surficial Geologic Unit	Earthwork Recommendations		
	From	To			Cut Slopes	Fill Slopes	Excavation Method
GF1	13039+00	13170+00	49 - 50	Ta3	3H:1V	3H:1V	Conventional Excavation
GF1	13170+00	13178+00	50	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	13178+00	13193+00	50	Ta3	3H:1V	3H:1V	Conventional Excavation
GF1	13193+00	13241+00	50	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	13241+00	13274+00	50	Ta3	3H:1V	3H:1V	Conventional Excavation
GF1	13274+00	13281+00	50	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	13281+00	13292+00	50	Ta3	3H:1V	3H:1V	Conventional Excavation
GF1	13292+00	13307+00	50	Qao	2H:1V	2H:1V	Conventional Excavation
GF1	13307+00	13316+00	50	Ta3	1H:1V	2H:1V	Drilling and Blasting
GF1	13316+00	13333+00	50	Qao	2H:1V	2H:1V	Conventional Excavation
GF1	13333+00	13347+00	50	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	13347+00	13363+00	50	Qao	2H:1V	2H:1V	Conventional Excavation
GF1	13363+00	13399+00	50 - 51	Tt3	1H:1V	2H:1V	Drilling and Blasting
GF1	13399+00	13405+00	50 - 51	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	13405+00	13452+00	51	Tt3	1H:1V	2H:1V	Drilling and Blasting
GF1	13452+00	13458+00	51	Qay	2H:1V	2H:1V	Conventional Excavation
GF1	13458+00	13467+00	51	Qao	2H:1V	2H:1V	Conventional Excavation
GF1	13467+00	13523+00	51	Tst	1H:1V	2H:1V	Drilling and Blasting
GF1	13523+00	13760+00	51	Qao	2H:1V	2H:1V	Ripping
GF1	13760+00	13767+00	51 - 52	Qc	2H:1V	2H:1V	Conventional Excavation
GF1	13767+00	13871+41	52	Qay	2H:1V	2H:1V	Conventional Excavation
CS4	13871+41	14028+00	52 and 56	Qay	2H:1V	2H:1V	Conventional Excavation
CS4	14028+00	14075+00	56	Qc	2H:1V	2H:1V	Conventional Excavation
CS4	14075+00	14250+00	56	Qay	2H:1V	2H:1V	Conventional Excavation
BC3	14250+00	14380+00	56 - 57	Qay	2H:1V	2H:1V	Conventional Excavation
BC3	14380+00	14413+00	57	Qp	4H:1V	4H:1V	Conventional Excavation
BC3	14413+00	14487+00	57 - 58	Qay	2H:1V	2H:1V	Conventional Excavation
BC3	14487+00	14520+00	58	Tm	1H:1V	2H:1V	Drilling and Blasting
BC3	14520+00	14576+00	58	Qay	2H:1V	2H:1V	Conventional Excavation
BC3	14576+00	14627+00	58 - 59	QTau	2H:1V	2H:1V	Ripping
BC3	14627+00	14684+00	58 - 59	Tm	1H:1V	2H:1V	Drilling and Blasting
BC3	14684+00	14694+00	59	QTau	2H:1V	2H:1V	Ripping
BC3	14694+00	14711+00	59	Tm	1H:1V	2H:1V	Drilling and Blasting
BC3	14711+00	14882+00	59	QTau	2H:1V	2H:1V	Ripping
BC3	14882+00	14890+00	59	Qay	2H:1V	2H:1V	Conventional Excavation
CS5	14890+00	14949+00	59	Qay	2H:1V	2H:1V	Conventional Excavation
CS5	14949+00	15367+00	59 - 61	QTau	2H:1V	2H:1V	Ripping
CS5	15367+00	15376+00	61	Qc	2H:1V	2H:1V	Conventional Excavation
CS5	15376+00	15498+00	61	QTau	2H:1V	2H:1V	Ripping
CS5	15498+00	15506+00	61	Tm	1H:1V	2H:1V	Drilling and Blasting
CS5	15506+00	15527+00	61	QTau	2H:1V	2H:1V	Ripping
CS5	15527+00	15540+00	61	QTb	1H:1V	2H:1V	Drilling and Blasting
CS5	15540+00	15612+00	61 - 62	QTau	2H:1V	2H:1V	Ripping
CS5	15612+00	15758+00	62	Qay	2H:1V	2H:1V	Conventional Excavation
CS5	15758+00	15798+00	62	Qp	4H:1V	4H:1V	Conventional Excavation
CS5	15798+00	15889+00	62 - 63	Qay	2H:1V	2H:1V	Conventional Excavation
CS5	15889+00	15900+00	63	Qe	2H:1V	2H:1V	Conventional Excavation
CS5	15900+00	15913+00	63	Qp	4H:1V	4H:1V	Conventional Excavation
CS5	15913+00	15973+00	63	Qe	2H:1V	2H:1V	Conventional Excavation
CS5	15973+00	16033+00	63	Qay	2H:1V	2H:1V	Conventional Excavation
CS5	16033+00	16050+00	63	Qam	2H:1V	2H:1V	Ripping
OV1	16050+00	16109+00	63 - 64	Qam	2H:1V	2H:1V	Conventional Excavation
OV1	16109+00	16130+00	64	Qay	2H:1V	2H:1V	Conventional Excavation
OV1	16130+00	16189+00	64	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV1	16189+00	16198+00	64	Qay	2H:1V	2H:1V	Conventional Excavation
OV1	16198+00	16209+00	64	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV1	16209+00	16224+00	64	QTau	2H:1V	2H:1V	Ripping
OV1	16224+00	16229+00	64	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV1	16229+00	16252+00	64	QTau	2H:1V	2H:1V	Ripping
OV1	16252+00	16300+00	64	Qay	2H:1V	2H:1V	Conventional Excavation
OV1	16300+00	16340+00	64 - 65	Qc	2H:1V	2H:1V	Conventional Excavation
OV1	16340+00	16362+00	65	Qe	2H:1V	2H:1V	Conventional Excavation
OV1	16362+00	16375+00	65	Qc	2H:1V	2H:1V	Conventional Excavation

TABLE 7
PRELIMINARY RECOMMENDATIONS FOR CUT AND FILL SLOPES AND EXCAVATION METHODS BY STATION INTERVAL

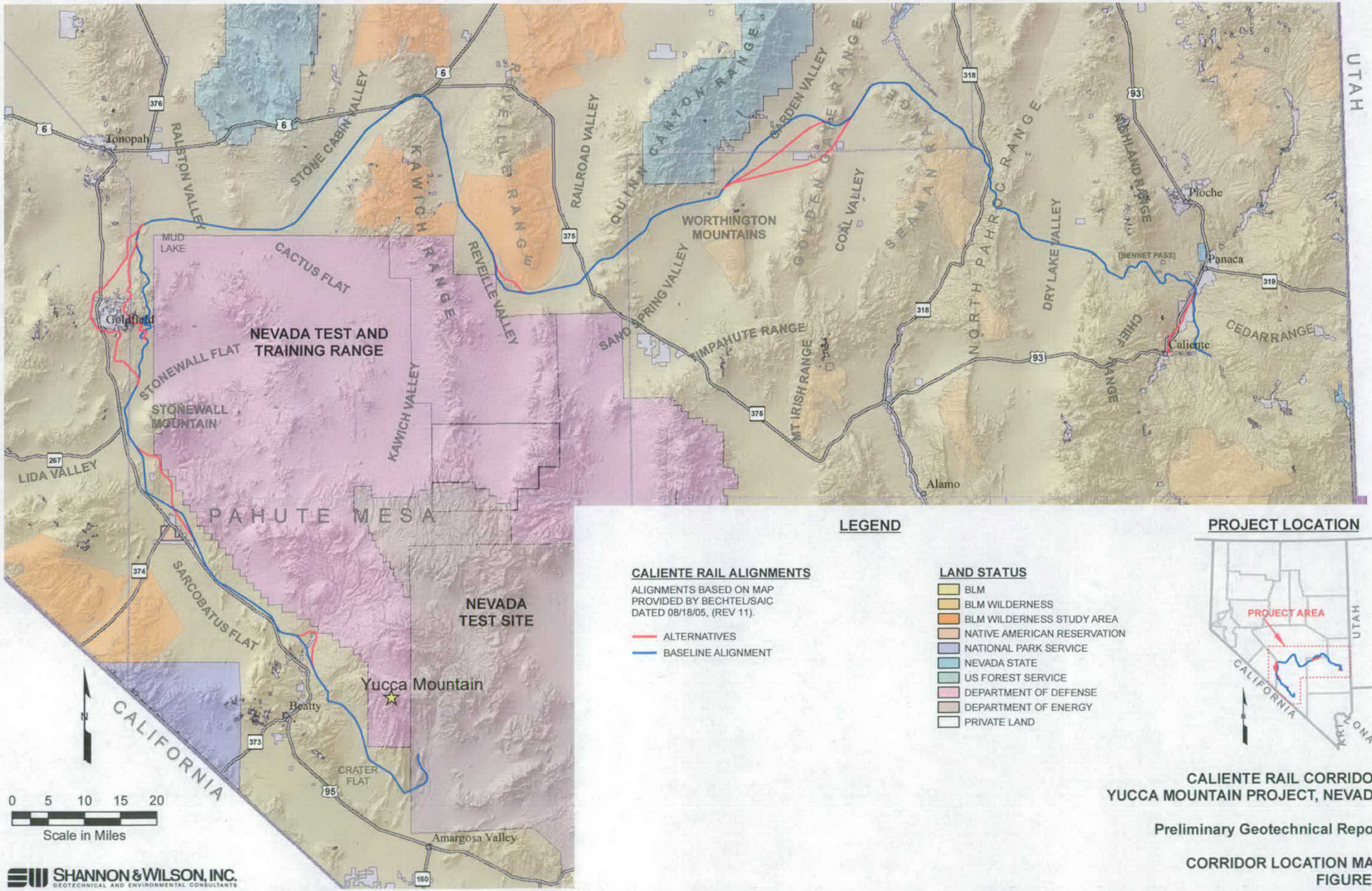
Alignment Segment	Station		Figure 3 Sheet(s)	Surficial Geologic Unit	Earthwork Recommendations		
	From	To			Cut Slopes	Fill Slopes	Excavation Method
OV1	16375+00	16392+00	65	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV1	16392+00	16414+00	65	Qam	2H:1V	2H:1V	Ripping
OV1	16414+00	16436+00	65	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV1	16436+00	16442+00	65	Qam	2H:1V	2H:1V	Ripping
OV1	16442+00	16450+00	65	Tsy	1H:1V	2H:1V	Drilling and Blasting
CS6	16450+00	16454+00	65	Tsy	1H:1V	2H:1V	Drilling and Blasting
CS6	16454+00	16466+00	65	Qam	2H:1V	2H:1V	Conventional Excavation
CS6	16466+00	16522+00	65	Tsy	1H:1V	2H:1V	Drilling and Blasting
CS6	16522+00	16528+00	65	QTau	2H:1V	2H:1V	Ripping
CS6	16528+00	16547+00	65	Tsy	1H:1V	2H:1V	Drilling and Blasting
CS6	16547+00	16605+00	65	QTau	2H:1V	2H:1V	Ripping
CS6	16605+00	16678+00	65 - 66	Tsy	1H:1V	2H:1V	Drilling and Blasting
CS6	16678+00	16705+00	66	Tmar	1H:1V	2H:1V	Drilling and Blasting
CS6	16705+00	16750+00	66	Tmrf	1H:1V	2H:1V	Drilling and Blasting
CS6	16750+00	16771+00	66	Tp	1H:1V	2H:1V	Drilling and Blasting
CS6	16771+00	16784+00	66	Tc	1H:1V	2H:1V	Drilling and Blasting
CS6	16784+00	16829+00	66	Tp	1H:1V	2H:1V	Drilling and Blasting
CS6	16829+00	16855+00	66	QTls	3H:1V	3H:1V	Conventional Excavation
CS6	16855+00	16919+00	66 - 67	Qao	2H:1V	2H:1V	Ripping
CS6	16919+00	16945+00	66 - 67	Tmrf	1H:1V	2H:1V	Drilling and Blasting
CS6	16945+00	16961+00	67	Qao	2H:1V	2H:1V	Ripping
CS6	16961+00	16980+00	67	Qam	2H:1V	2H:1V	Ripping
CS6	16980+00	17055+00	67	Qao	2H:1V	2H:1V	Ripping
CS6	17055+00	17079+00	67	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	17079+00	17095+00	67	Qam	2H:1V	2H:1V	Ripping
CS6	17095+00	17118+00	67 - 68	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	17118+00	17196+00	67 - 68	Qam	2H:1V	2H:1V	Ripping
CS6	17196+00	17281+00	68	Qao	2H:1V	2H:1V	Ripping
CS6	17281+00	17310+00	68 - 69	Qam	2H:1V	2H:1V	Ripping
CS6	17310+00	17327+00	69	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	17327+00	17362+00	69	Qam	2H:1V	2H:1V	Ripping
CS6	17362+00	17385+00	69	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	17385+00	17415+00	69	Qe	2H:1V	2H:1V	Conventional Excavation
CS6	17415+00	17533+00	69	Qam	2H:1V	2H:1V	Ripping
CS6	17533+00	17544+00	69	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	17544+00	17552+00	69	Tp	1H:1V	2H:1V	Drilling and Blasting
CS6	17552+00	17573+00	69 - 70	Qao	2H:1V	2H:1V	Ripping
CS6	17573+00	17643+00	70	Qam	2H:1V	2H:1V	Ripping
CS6	17643+00	17692+00	70	Qao	2H:1V	2H:1V	Ripping
CS6	17692+00	17710+00	70	Tp	1H:1V	2H:1V	Drilling and Blasting
CS6	17710+00	17723+00	70	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	17723+00	17737+00	70	Tp	1H:1V	2H:1V	Drilling and Blasting
CS6	17737+00	17742+00	70	Qe	2H:1V	2H:1V	Conventional Excavation
CS6	17742+00	17809+00	70	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	17809+00	17815+00	70	Qam	2H:1V	2H:1V	Ripping
CS6	17815+00	17826+00	70	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	17826+00	17918+00	70	Qe	2H:1V	2H:1V	Conventional Excavation
CS6	17918+00	18010+00	70 - 71	Qam	2H:1V	2H:1V	Ripping
CS6	18010+00	18060+00	71	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	18060+00	18072+00	71	Qe	2H:1V	2H:1V	Conventional Excavation
CS6	18072+00	18145+00	71	Qay	2H:1V	2H:1V	Conventional Excavation
CS6	18145+00	18192+88	71	Qam	2H:1V	2H:1V	Ripping
Eccles	20000+00	20064+00	1	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20064+00	20071+00	1	Tt3	1H:1V	2H:1V	Drilling and Blasting
Eccles	20071+00	20103+00	1	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20103+00	20120+00	1	Tsy	1H:1V	2H:1V	Drilling and Blasting
Eccles	20120+00	20125+00	1	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20125+00	20131+00	1	Tl	3H:1V	3H:1V	Ripping
Eccles	20131+00	20143+00	1	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20143+00	20215+00	1	Tl	3H:1V	3H:1V	Ripping
Eccles	20215+00	20223+00	1	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20223+00	20292+00	1	Tl	3H:1V	3H:1V	Ripping
Eccles	20292+00	20311+00	1	Qay	2H:1V	2H:1V	Conventional Excavation

TABLE 7
PRELIMINARY RECOMMENDATIONS FOR CUT AND FILL SLOPES AND EXCAVATION METHODS BY STATION INTERVAL

Alignment Segment	Station		Figure 3 Sheet(s)	Surficial Geologic Unit	Earthwork Recommendations		
	From	To			Cut Slopes	Fill Slopes	Excavation Method
Eccles	20311+00	20333+00	1	Tl	3H:1V	3H:1V	Ripping
Eccles	20333+00	20350+00	1	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20350+00	20367+00	1	Tl	3H:1V	3H:1V	Ripping
Eccles	20367+00	20499+00	1 - 2	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20499+00	20505+00	2	Tl	3H:1V	3H:1V	Ripping
Eccles	20505+00	20538+00	2	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20538+00	20545+00	2	Tl	3H:1V	3H:1V	Ripping
Eccles	20545+00	20568+00	2	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20568+00	20598+00	2	Qc	4H:1V	4H:1V	Conventional Excavation
Eccles	20598+00	20607+00	2	Qay	2H:1V	2H:1V	Conventional Excavation
Eccles	20607+00	20616+51	2	Tl	3H:1V	3H:1V	Ripping
GV2	28000+00	28038+00	15 - 16	Qao	2H:1V	2H:1V	Ripping
GV2	28038+00	28205+00	16	Qayf	3H:1V	3H:1V	Conventional Excavation
GV2	28205+00	28338+00	16 and 22	Qay	2H:1V	2H:1V	Conventional Excavation
GV2	28338+00	28420+00	22	Qc	2H:1V	2H:1V	Conventional Excavation
GV2	28420+00	28550+00	22 and 23	Qay	2H:1V	2H:1V	Conventional Excavation
GV2	28550+00	28620+00	23	Qc	2H:1V	2H:1V	Conventional Excavation
GV2	28620+00	28766+00	23	Qao	2H:1V	2H:1V	Ripping
GV2	28766+00	28780+00	23	Qc	2H:1V	2H:1V	Conventional Excavation
GV2	28780+00	29136+00	23, 20, and 21	Qao	2H:1V	2H:1V	Ripping
GV2	29136+00	29177+75	21	Qay	2H:1V	2H:1V	Conventional Excavation
GV3	30000+00	30136+00	17	Qay	2H:1V	2H:1V	Conventional Excavation
GV3	30136+00	30148+00	17	Qc	2H:1V	2H:1V	Conventional Excavation
GV3	30148+00	30258+00	17	Qao	2H:1V	2H:1V	Ripping
GV3	30258+00	30468+00	17 - 18	Qay	2H:1V	2H:1V	Conventional Excavation
GV3	30468+00	30427+00	18	Qc	2H:1V	2H:1V	Conventional Excavation
GV3	30427+00	30528+00	18 - 19	Qay	2H:1V	2H:1V	Conventional Excavation
GV3	30528+00	30978+00	19 - 21	Qao	2H:1V	2H:1V	Ripping
GV3	30978+00	31016+06	21	Qay	2H:1V	2H:1V	Conventional Excavation
SR2	36000+00	36054+00	30	Qay	2H:1V	2H:1V	Conventional Excavation
SR2	36054+00	36072+00	30	QTb	1H:1V	2H:1V	Drilling and Blasting
SR2	36072+00	36091+00	30	Qay	2H:1V	2H:1V	Conventional Excavation
SR2	36091+00	36100+00	30	Qao	2H:1V	2H:1V	Ripping
SR2	36100+00	36263+00	30 - 31	Ta2	1H:1V	2H:1V	Drilling and Blasting
SR2	36263+00	36478+07	31	Qao	2H:1V	2H:1V	Ripping
GF4	42000+00	42117+00	46	Qay	2H:1V	2H:1V	Conventional Excavation
GF4	42117+00	42163+00	46	Qao	2H:1V	2H:1V	Ripping
GF4	42163+00	42211+00	46 - 47	Qay	2H:1V	2H:1V	Conventional Excavation
GF4	42211+00	42253+00	47	Qao	2H:1V	2H:1V	Ripping
GF4	42253+00	42291+00	47	Qay	2H:1V	2H:1V	Conventional Excavation
GF4	42291+00	42303+00	47	Qao	2H:1V	2H:1V	Ripping
GF4	42303+00	42316+00	47	Qay	2H:1V	2H:1V	Conventional Excavation
GF4	42316+00	42352+00	47	Qao	2H:1V	2H:1V	Ripping
GF4	42352+00	42358+00	47	Tt3	1H:1V	2H:1V	Drilling and Blasting
GF4	42358+00	42385+00	47	Qao	2H:1V	2H:1V	Ripping
GF4	42385+00	42403+00	47 - 48	Qay	2H:1V	2H:1V	Conventional Excavation
GF4	42403+00	42414+00	48	Qao	2H:1V	2H:1V	Ripping
GF4	42414+00	42443+00	48	Qay	2H:1V	2H:1V	Conventional Excavation
GF4	42443+00	42499+00	48	Qao	2H:1V	2H:1V	Ripping
GF4	42499+00	42504+00	48	Qc	2H:1V	2H:1V	Conventional Excavation
GF4	42504+00	42582+00	48 and 53	Tsy	1H:1V	2H:1V	Drilling and Blasting
GF4	42582+00	42644+00	53	Qao	2H:1V	2H:1V	Ripping
GF4	42644+00	42650+00	53	Qc	2H:1V	2H:1V	Conventional Excavation
GF4	42650+00	42672+00	53	Qao	2H:1V	2H:1V	Ripping
GF4	42672+00	42703+00	53	QTa	2H:1V	2H:1V	Ripping
GF4	42703+00	42708+00	53	Tsy	1H:1V	2H:1V	Drilling and Blasting
GF4	42708+00	42821+00	53	QTa	2H:1V	2H:1V	Ripping
GF4	42821+00	42974+00	53 - 54	Tsy	1H:1V	2H:1V	Drilling and Blasting
GF4	42974+00	42979+00	54	QTb	1H:1V	2H:1V	Drilling and Blasting
GF4	42979+00	43041+00	54	Tsy	1H:1V	2H:1V	Drilling and Blasting
GF4	43041+00	43050+00	54	Qay	2H:1V	2H:1V	Conventional Excavation
GF4	43050+00	43077+00	54	Tsy	1H:1V	2H:1V	Drilling and Blasting
GF4	43077+00	43104+00	54	Tt3	1H:1V	2H:1V	Drilling and Blasting

TABLE 7
PRELIMINARY RECOMMENDATIONS FOR CUT AND FILL SLOPES AND EXCAVATION METHODS BY STATION INTERVAL

Alignment Segment	Station		Figure 3 Sheet(s)	Surficial Geologic Unit	Earthwork Recommendations		
	From	To			Cut Slopes	Fill Slopes	Excavation Method
GF4	43104+00	43142+00	54	Ta3	1H:1V	2H:1V	Drilling and Blasting
GF4	43142+00	43187+00	54 - 55	Tsy	1H:1V	2H:1V	Drilling and Blasting
GF4	43187+00	43416+00	55	Tst	1H:1V	2H:1V	Drilling and Blasting
GF4	43416+00	43510+00	55 and 51	Qao	2H:1V	2H:1V	Ripping
GF4	43510+00	43535+00	51	Qc	2H:1V	2H:1V	Conventional Excavation
GF4	43535+00	43559+00	51	Tst	1H:1V	2H:1V	Drilling and Blasting
GF4	43559+00	43615+00	51 - 52	Qao	2H:1V	2H:1V	Ripping
GF4	43615+00	43622+00	52	Qc	2H:1V	2H:1V	Conventional Excavation
GF4	43622+00	43712+85	52	Qay	2H:1V	2H:1V	Conventional Excavation
BC2	44000+00	44249+00	56 - 57	Qay	2H:1V	2H:1V	Conventional Excavation
BC2	44249+00	44256+00	57	Qc	2H:1V	2H:1V	Conventional Excavation
BC2	44256+00	44312+00	57	Tm	1H:1V	2H:1V	Drilling and Blasting
BC2	44312+00	44405+00	57 - 58	Qay	2H:1V	2H:1V	Conventional Excavation
BC2	44405+00	44417+00	58	Qc	2H:1V	2H:1V	Conventional Excavation
BC2	44417+00	44431+00	58	Qay	2H:1V	2H:1V	Conventional Excavation
BC2	44431+00	44515+00	58	Qc	2H:1V	2H:1V	Conventional Excavation
BC2	44515+00	44553+00	58 - 59	Qayf	3H:1V	3H:1V	Conventional Excavation
BC2	44553+00	44622+00	58	Qay	2H:1V	2H:1V	Conventional Excavation
BC2	44622+00	44683+00	59	QTau	2H:1V	2H:1V	Ripping
BC2	44683+00	44712+00	59	Qay	2H:1V	2H:1V	Conventional Excavation
BC2	44712+00	44958+76	59 - 60	QTau	2H:1V	2H:1V	Ripping
OV3	46000+00	46009+00	64	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV3	46009+00	46024+00	64	QTau	2H:1V	2H:1V	Ripping
OV3	46024+00	46029+00	64	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV3	46029+00	46044+00	64	QTau	2H:1V	2H:1V	Ripping
OV3	46044+00	46110+00	64	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV3	46110+00	46125+00	64	Qay	2H:1V	2H:1V	Conventional Excavation
OV3	46125+00	46172+00	64	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV3	46172+00	46177+00	64	Qc	2H:1V	2H:1V	Conventional Excavation
OV3	46177+00	46182+00	64	QTc	2H:1V	2H:1V	Conventional Excavation
OV3	46182+00	46198+00	64	Qc	2H:1V	2H:1V	Conventional Excavation
OV3	46198+00	46228+00	64	Qao	2H:1V	2H:1V	Ripping
OV3	46228+00	46233+00	64	Qay	2H:1V	2H:1V	Conventional Excavation
OV3	46233+00	46314+00	64 - 65	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV3	46314+00	46333+00	65	Qc	2H:1V	2H:1V	Conventional Excavation
OV3	46333+00	46339+00	65	Qam	2H:1V	2H:1V	Ripping
OV3	46339+00	46360+00	65	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV3	46360+00	46369+00	65	Qam	2H:1V	2H:1V	Ripping
OV3	46369+00	46392+00	65	Tsy	1H:1V	2H:1V	Drilling and Blasting
OV3	46392+00	46421+00	65	Qam	2H:1V	2H:1V	Ripping
OV3	46421+00	46470+48	65	Tsy	1H:1V	2H:1V	Drilling and Blasting
GF3	52000+00	52131+00	46	Qay	2H:1V	2H:1V	Conventional Excavation
GF3	52131+00	52137+00	46	Qao	2H:1V	2H:1V	Ripping
GF3	52137+00	52244+00	46 and 47	Qay	2H:1V	2H:1V	Conventional Excavation
GF3	52244+00	52258+00	47	QTb	1H:1V	2H:1V	Drilling and Blasting
GF3	52258+00	52270+00	47	QTb (cinder cone)	1H:1V	2H:1V	Drilling and Blasting
GF3	52270+00	52585+00	47 - 49	QTb	1H:1V	2H:1V	Drilling and Blasting
GF3	52585+00	52633+00	49	Qao	2H:1V	2H:1V	Ripping
GF3	52633+00	52651+00	49	Tsy	1H:1V	2H:1V	Drilling and Blasting
GF3	52651+00	52682+00	49	Tvr	1H:1V	2H:1V	Drilling and Blasting
GF3	52682+00	52739+00	49	Ta3	3H:1V	3H:1V	Conventional Excavation
GF3	52739+00	52783+00	49 - 50	Tvr	1H:1V	2H:1V	Drilling and Blasting
GF3	52783+00	52882+00	50	Ta3	3H:1V	3H:1V	Conventional Excavation
GF3	52882+00	52897+00	50	Qay	2H:1V	2H:1V	Conventional Excavation
GF3	52897+00	52953+00	50	Ta3	3H:1V	3H:1V	Conventional Excavation
GF3	52953+00	52964+00	50	Qay	2H:1V	2H:1V	Conventional Excavation
GF3	52964+00	53067+00	50	Ta3	3H:1V	3H:1V	Conventional Excavation
GF3	53067+00	53073+00	50	Qao	2H:1V	2H:1V	Ripping
GF3	53073+00	53086+00	50	Ta3	3H:1V	3H:1V	Conventional Excavation
GF3	53086+00	53153+00	50	Qao	2H:1V	2H:1V	Ripping
GF3	53153+00	53224+49	50 - 51	Tt3	1H:1V	2H:1V	Drilling and Blasting



LEGEND

CALIENTE RAIL ALIGNMENTS

ALIGNMENTS BASED ON MAP PROVIDED BY BECHTEL/SAIC DATED 08/18/05, (REV 11).

- ALTERNATIVES
- BASELINE ALIGNMENT

LAND STATUS

- BLM
- BLM WILDERNESS
- BLM WILDERNESS STUDY AREA
- NATIVE AMERICAN RESERVATION
- NATIONAL PARK SERVICE
- NEVADA STATE
- US FOREST SERVICE
- DEPARTMENT OF DEFENSE
- DEPARTMENT OF ENERGY
- PRIVATE LAND

PROJECT LOCATION

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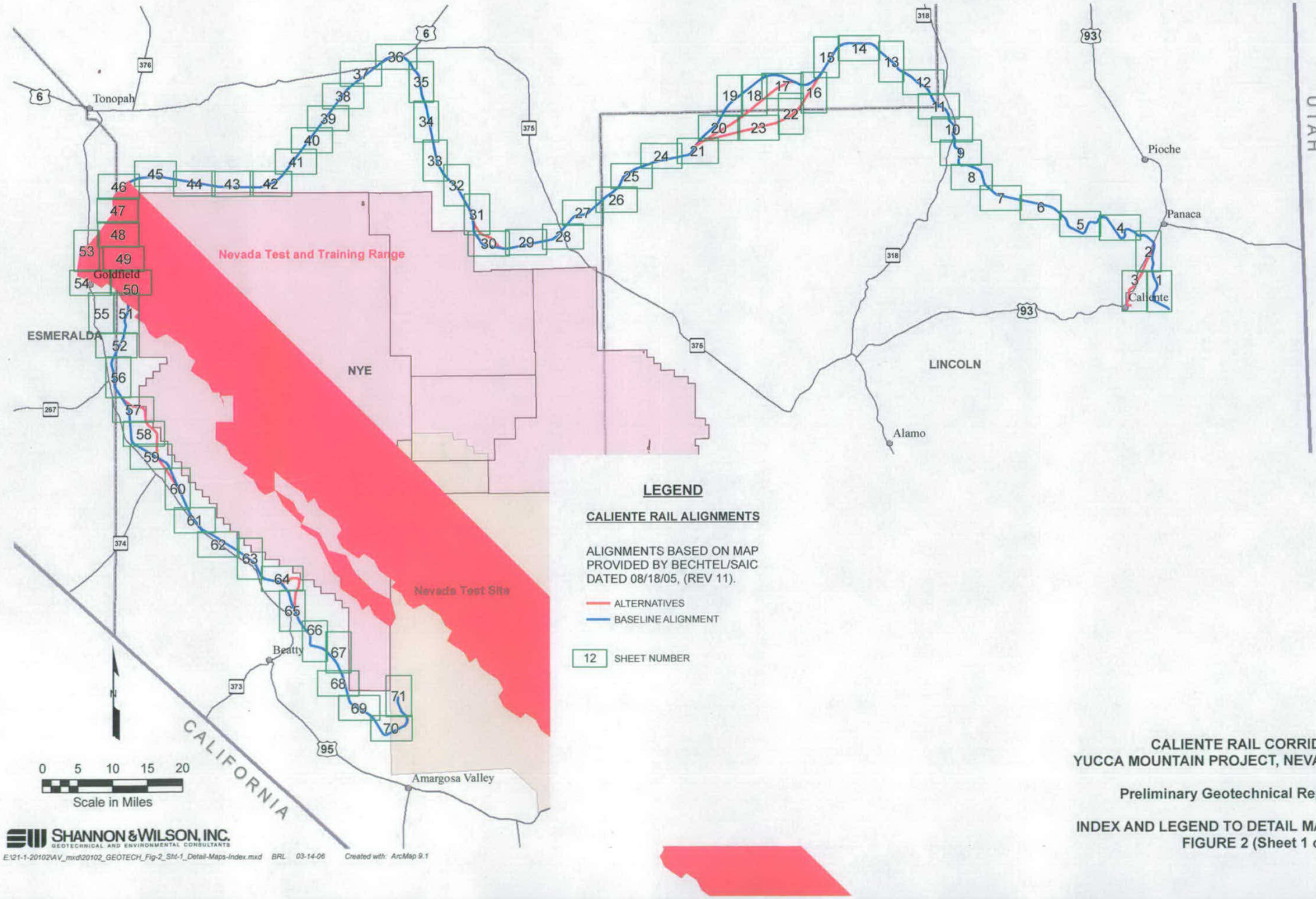
CALIENTE RAIL CORRIDOR
YUCCA MOUNTAIN PROJECT, NEVADA

Preliminary Geotechnical Report

CORRIDOR LOCATION MAP
FIGURE 1



LEGEND

CALIENTE RAIL ALIGNMENTS

ALIGNMENTS BASED ON MAP PROVIDED BY BECHTEL/SAIC DATED 08/18/05, (REV 11).

- ALTERNATIVES
- BASELINE ALIGNMENT

12 SHEET NUMBER

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INDEX AND LEGEND TO DETAIL MAPS
FIGURE 2 (Sheet 1 of 2)

SEDIMENTARY GEOLOGIC UNITS

QTls — LANDSLIDE DEPOSIT

QTc — COLLUVIUM

QTau — UNDIVIDED ALLUVIUM

Qe — EOLIAN DEPOSITS

Qc — STREAM CHANNEL AND FLOODPLAIN DEPOSITS

Qp — PLAYA DEPOSITS

Qayf — YOUNGER FINE-GRAINED ALLUVIUM

Holocene

Qay — YOUNG ALLUVIUM

QUATERNARY

Qam — INTERMEDIATE ALLUVIUM

Pleistocene

Qao — OLD ALLUVIUM

QTa — OLDEST ALLUVIUM

Tsy — YOUNGER SEDIMENTARY ROCKS

Tl — LAKE BEDS

Tf — FAN ALLUVIUM

Pliocene

Tso — OLDER SEDIMENTARY ROCKS

Miocene
Oligocene

TERTIARY

Tsp — SHEEP PASS FORMATION

Paleocene
Eocene

PPl — PERMIAN AND PENNSYLVANIAN LIMESTONE

PPe — ELY LIMESTONE

PERMIAN
PENNSLYVANIAN

Msc — SCOTTY WASH QUARTZITE AND CHAINMAN SHALE

Muc — UPPER MISSISSIPPIAN CLASTIC ROCKS

Mj — JOANA LIMESTONE

MDs — MISSISSIPPIAN AND DEVONIAN SHALE AND LIMESTONE

MDp — PILOT SHALE

MISSISSIPPIAN

Dg — GUILMETTE FORMATION

DEVONIAN

DSl — DEVONIAN AND SILURIAN CARBONATE ROCKS

Dsi — SIMONSON DOLOMITE

SILURIAN

Os — ORDOVICIAN SEDIMENTARY ROCKS

ORDOVICIAN

Cus — UPPER CAMBRIAN SEDIMENTARY ROCKS

Chp — HIGHLAND PEAK FORMATION

Ccl — CHISOLM SHALE AND LYNDON LIMESTONE

Coh — HOUSE LIMESTONE

Cn — NOPAH FORMATION

CAMBRIAN

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IGNEOUS GEOLOGIC UNITS

QTb — QUATERNARY-TERTIARY BASALT FLOWS AND CINDER CONES

Tvu — UNDIVIDED TERTIARY VOLCANIC ROCKS OF UNKNOWN LITHOLOGY

Tvr — RHYOLITE LAVA FLOWS AND INTRUSIVES

Ta4 — YOUNG INTERMEDIATE LAVA FLOWS

Ta3 — YOUNG INTERMEDIATE LAVA FLOWS

Ta2 — OLD INTERMEDIATE LAVA FLOWS

Tst — TUFF OF STONEWALL FLAT

Tt — THIRSTY CANYON GROUP

Tfv — FORTYMILE CANYON VOLCANICS

Tm — TIMBER MOUNTAIN GROUP

Tmar — AMMONIA TANKS AND RAINIER MESA TUFFS

Tmrf — RHYOLITE OF FLUORSPAR CANYON

Tp — PAINTBRUSH GROUP

Tac — CALICO HILLS AND WAHMONIE FORMATIONS

Tc — CRATER FLAT GROUP

Tr — TRAM RIDGE GROUP

Tt3 — MIDDLE SILICIC TO INTERMEDIATE ASH-FLOW TUFFS

Tt2 — OLD SILICIC TO INTERMEDIATE ASH-FLOW TUFFS

Tsm — SHINGLE PASS AND MONOTONY TUFFS AND RELATED VOLCANIC ROCKS

Tsn — SHINGLE PASS TUFF, NEEDLES RANGE GROUP, AND RELATED VOLCANIC ROCKS

Pleistocene
Pliocene

QUATERNARY

Miocene

TERTIARY

Oligocene

GEOTECHNICAL MARKERS

SM409 — GEOTECHNICAL RECONNAISSANCE WAYPOINT

S26 — GEOMORPHIC SEGMENT STARTING POINT

STRUCTURAL FEATURES

74 — FAULT dashed where located approximately or concealed by alluvium; queried where uncertain; ball and bar on downthrown side; arrow with number indicates direction and dip of fault

QUATERNARY ? FAULT SCARP

78 — ORIENTATION OF FOLIATION; Long line indicates strike; short line and number indicate direction and angle of dip

64 — ORIENTATION OF BEDDING; Long line indicated strike; short line and number indicate direction and angle of dip

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YUCCA MOUNTAIN PROJECT, NEVADA

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INDEX AND LEGEND TO DETAIL MAPS
FIGURE 2 (Sheet 2 of 2)

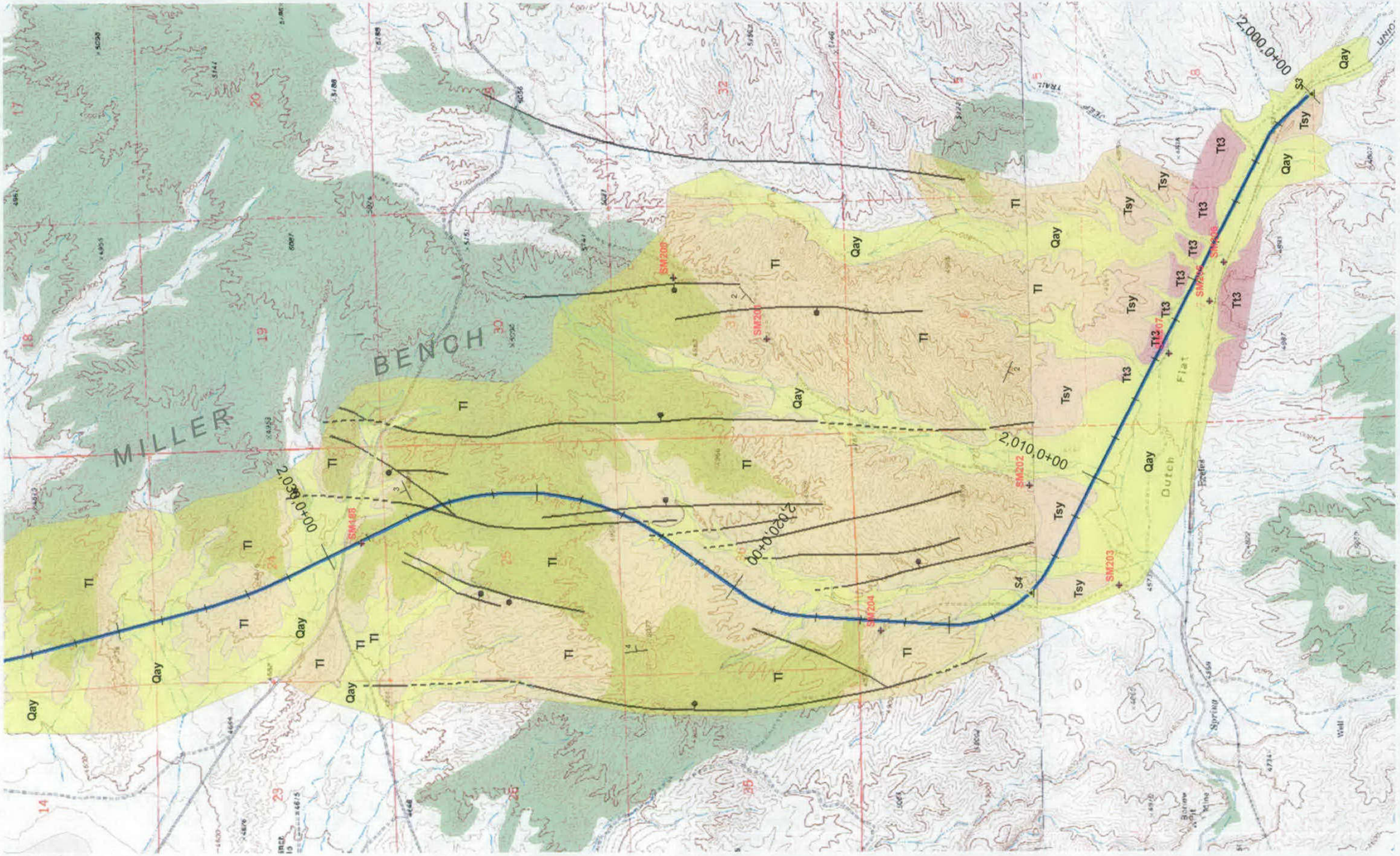

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FIGURE 3 (Sheet 1 of 71)

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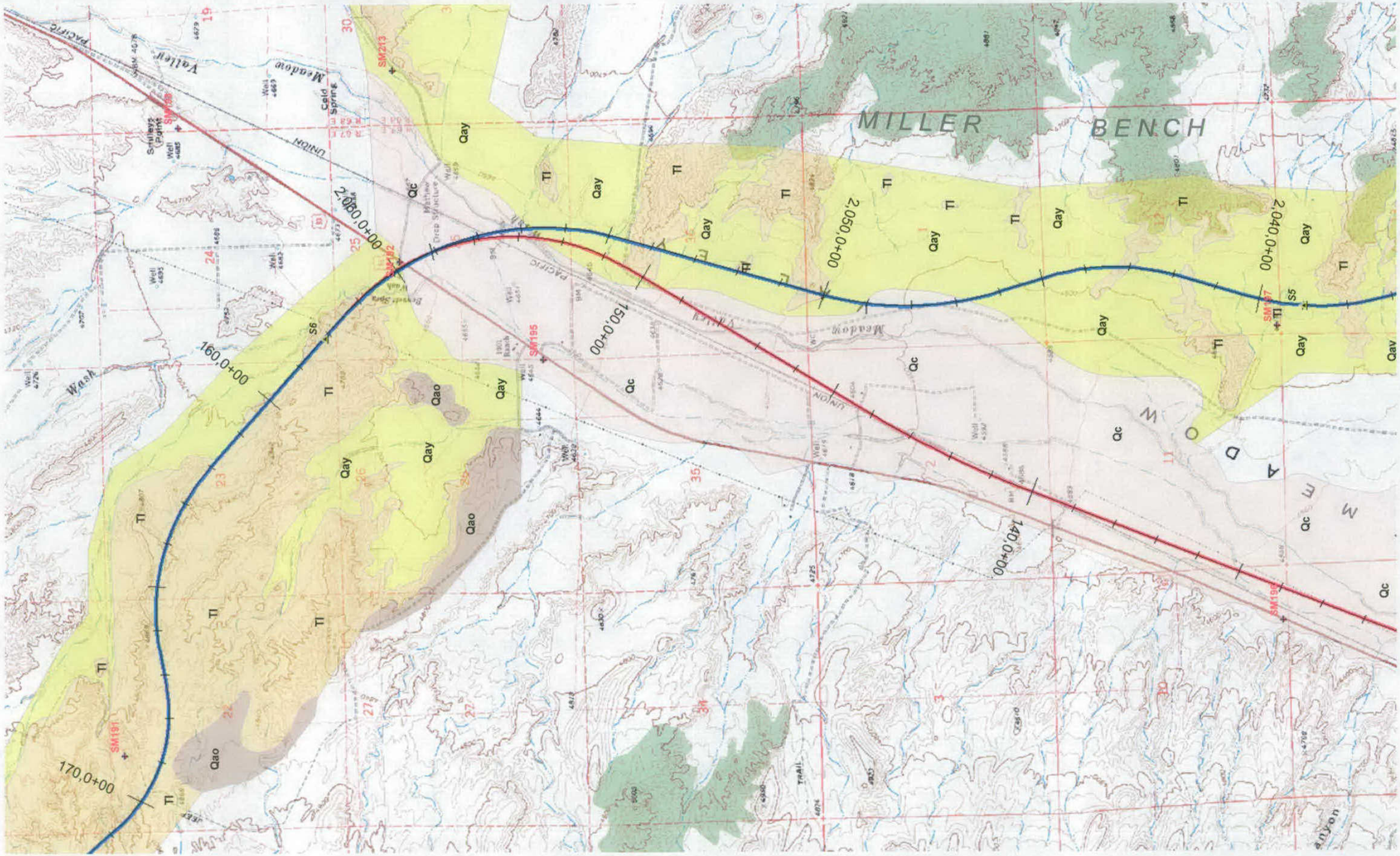

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FIGURE 3 (Sheet 2 of 71)

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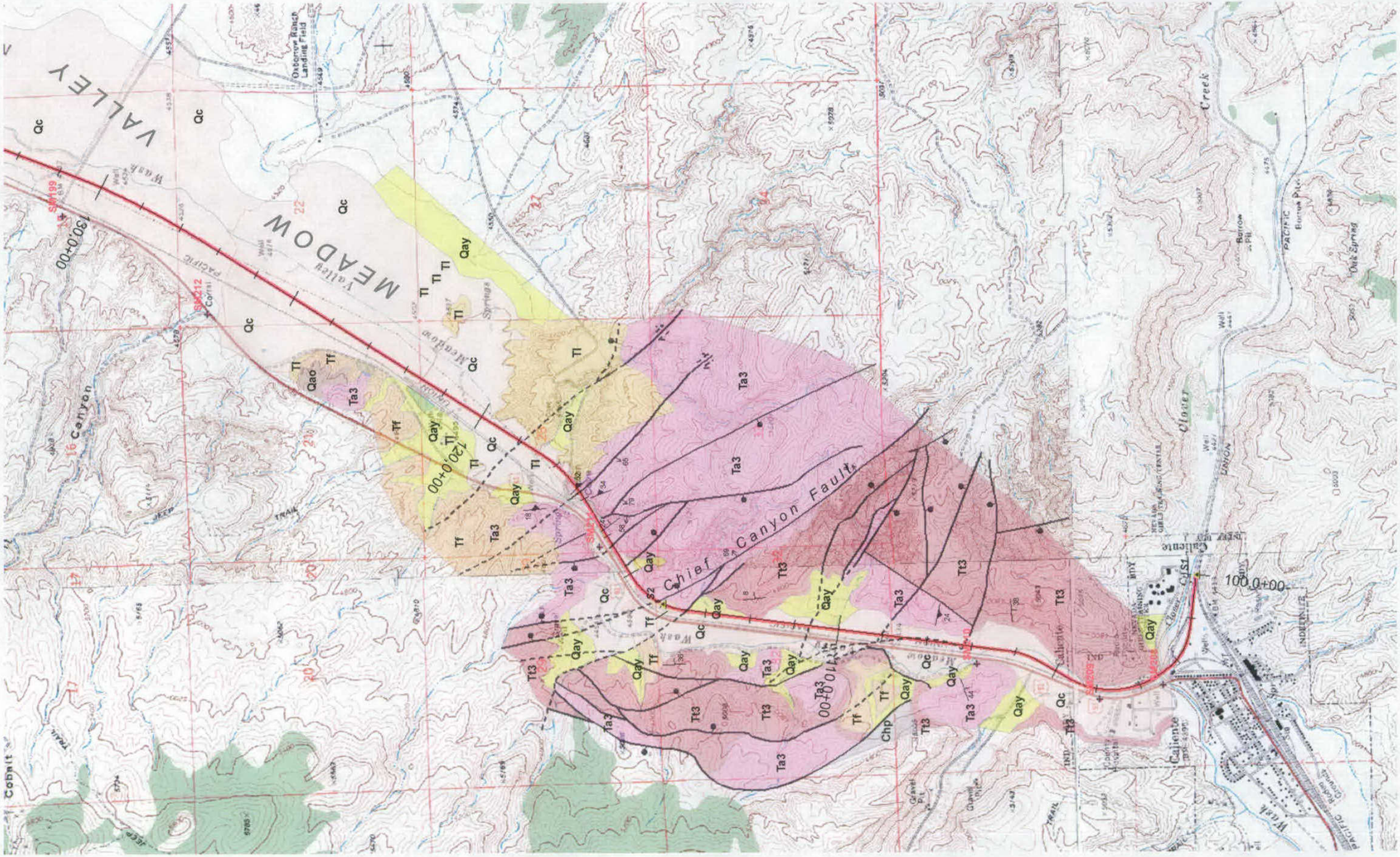

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CALIENTE RAIL CORRIDOR
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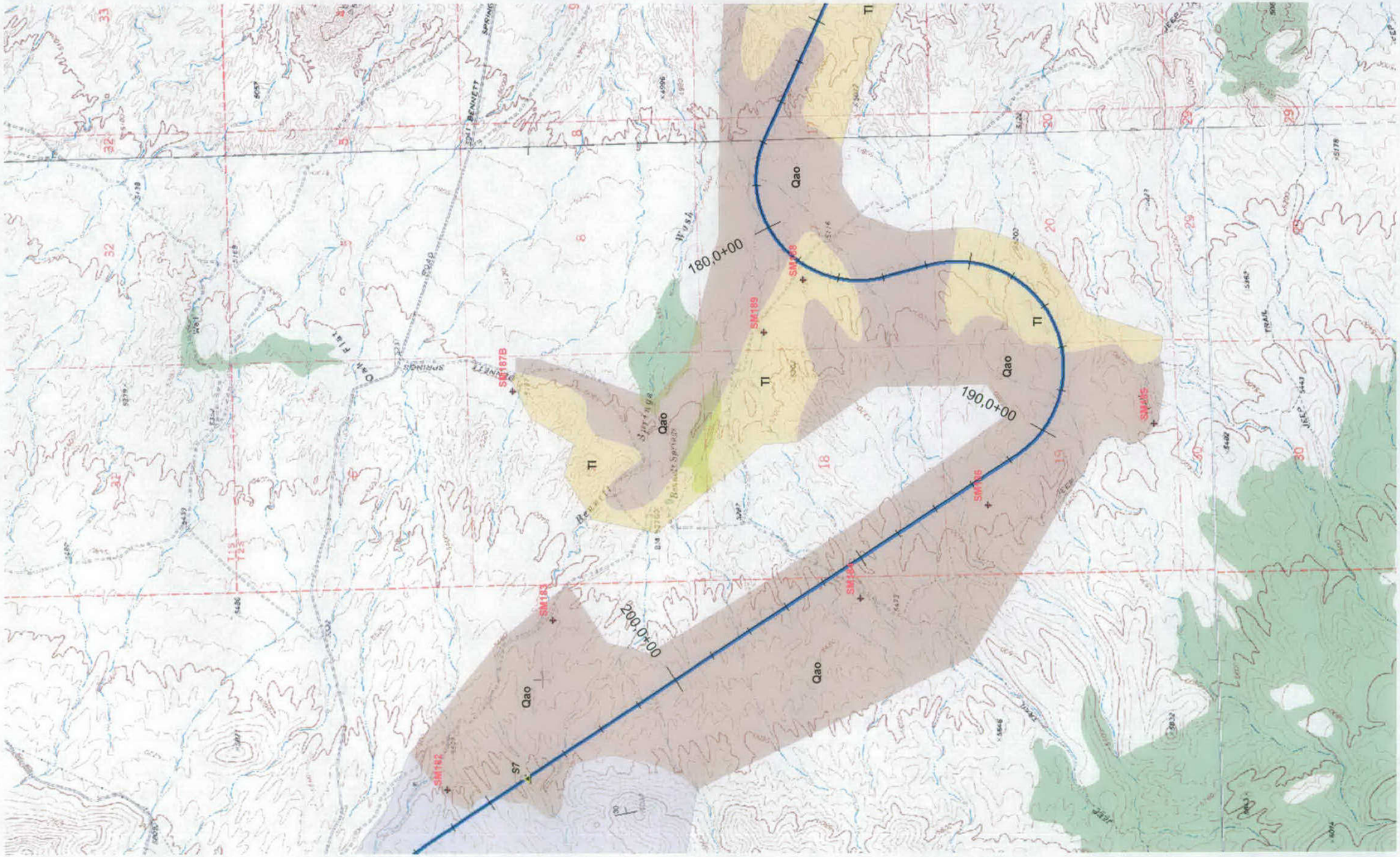
FIGURE 3 (Sheet 3 of 71)



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YUCCA MOUNTAIN PROJECT, NEVADA

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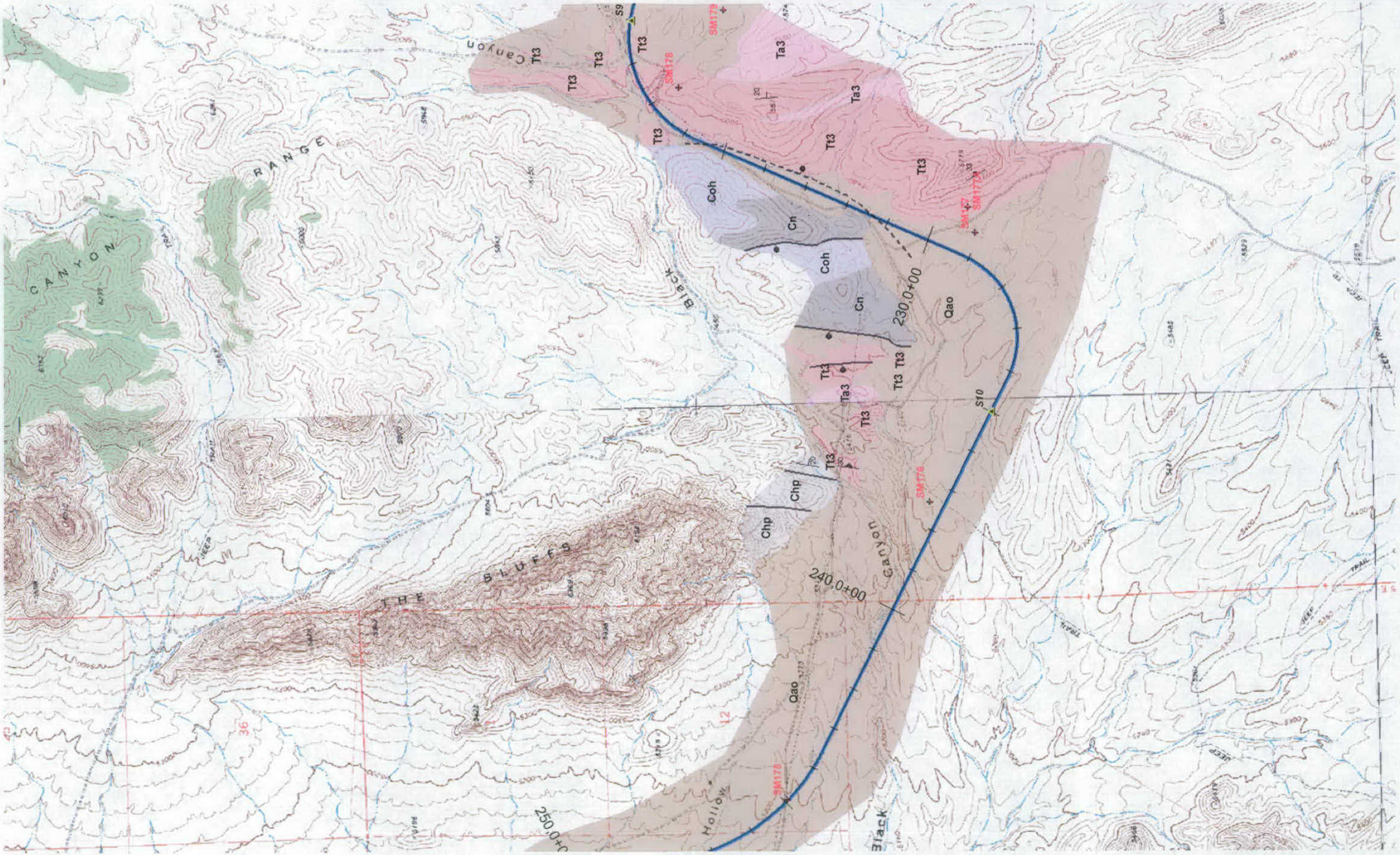
FIGURE 3 (Sheet 4 of 71)



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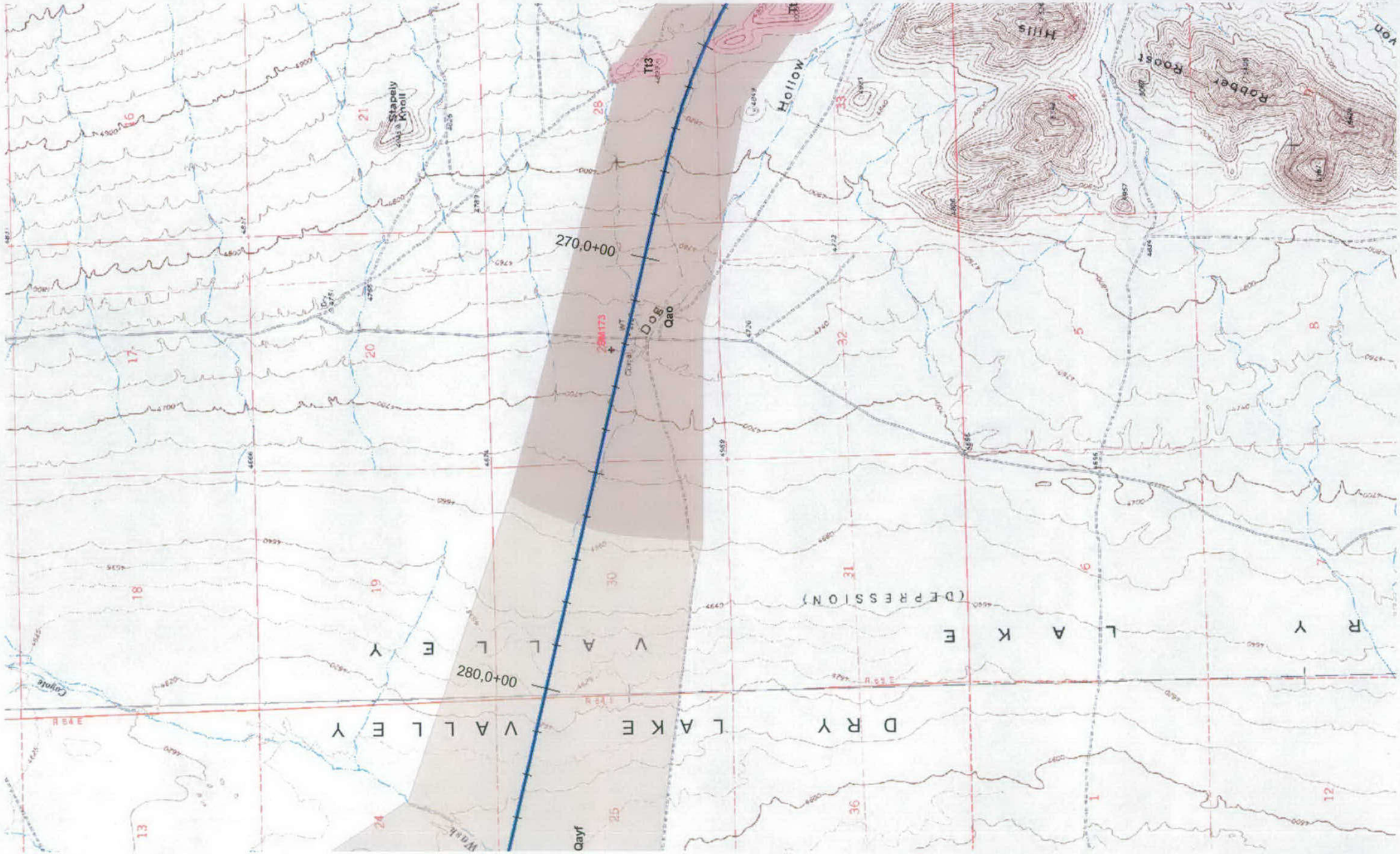

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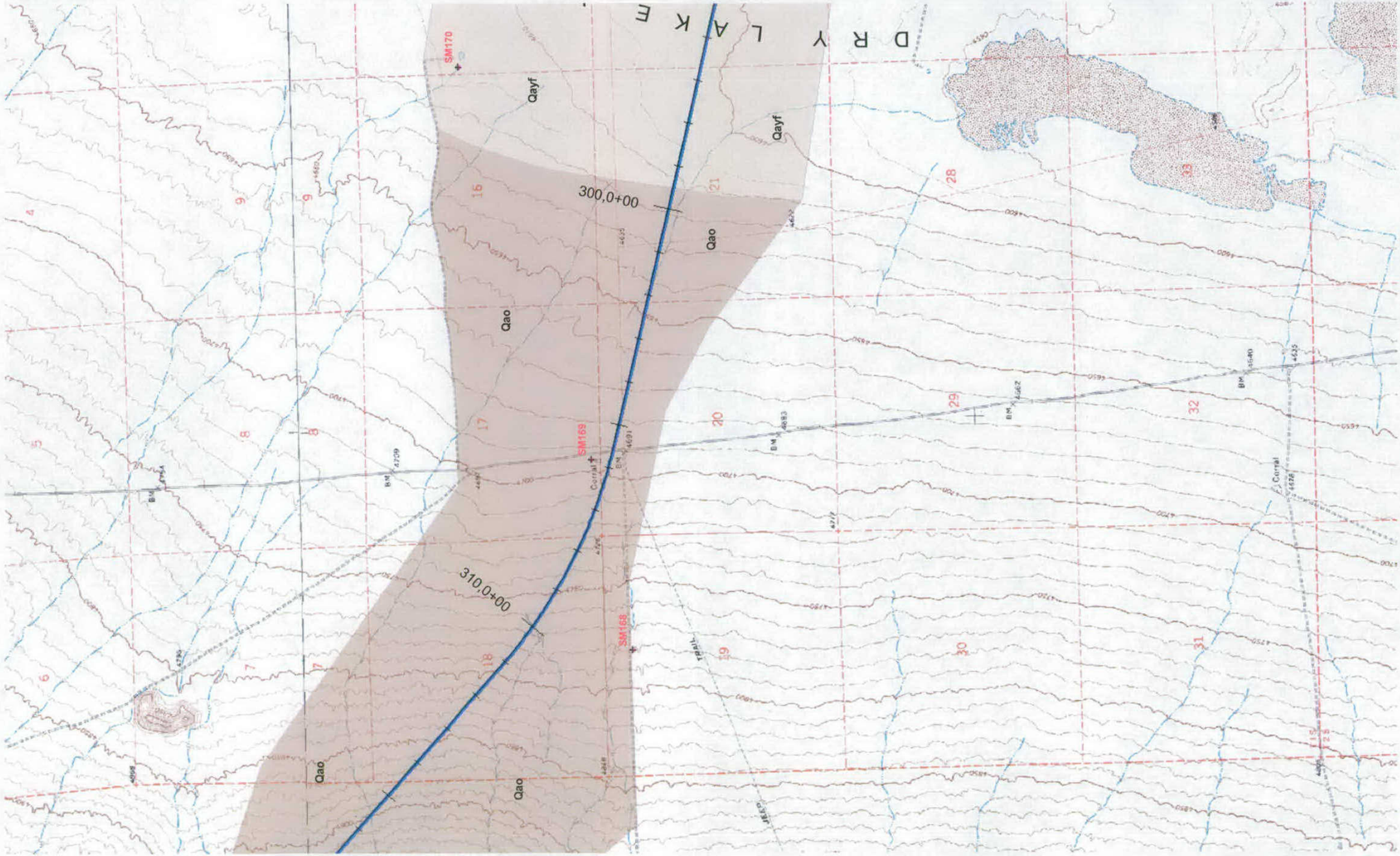

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YUCCA MOUNTAIN PROJECT, NEVADA

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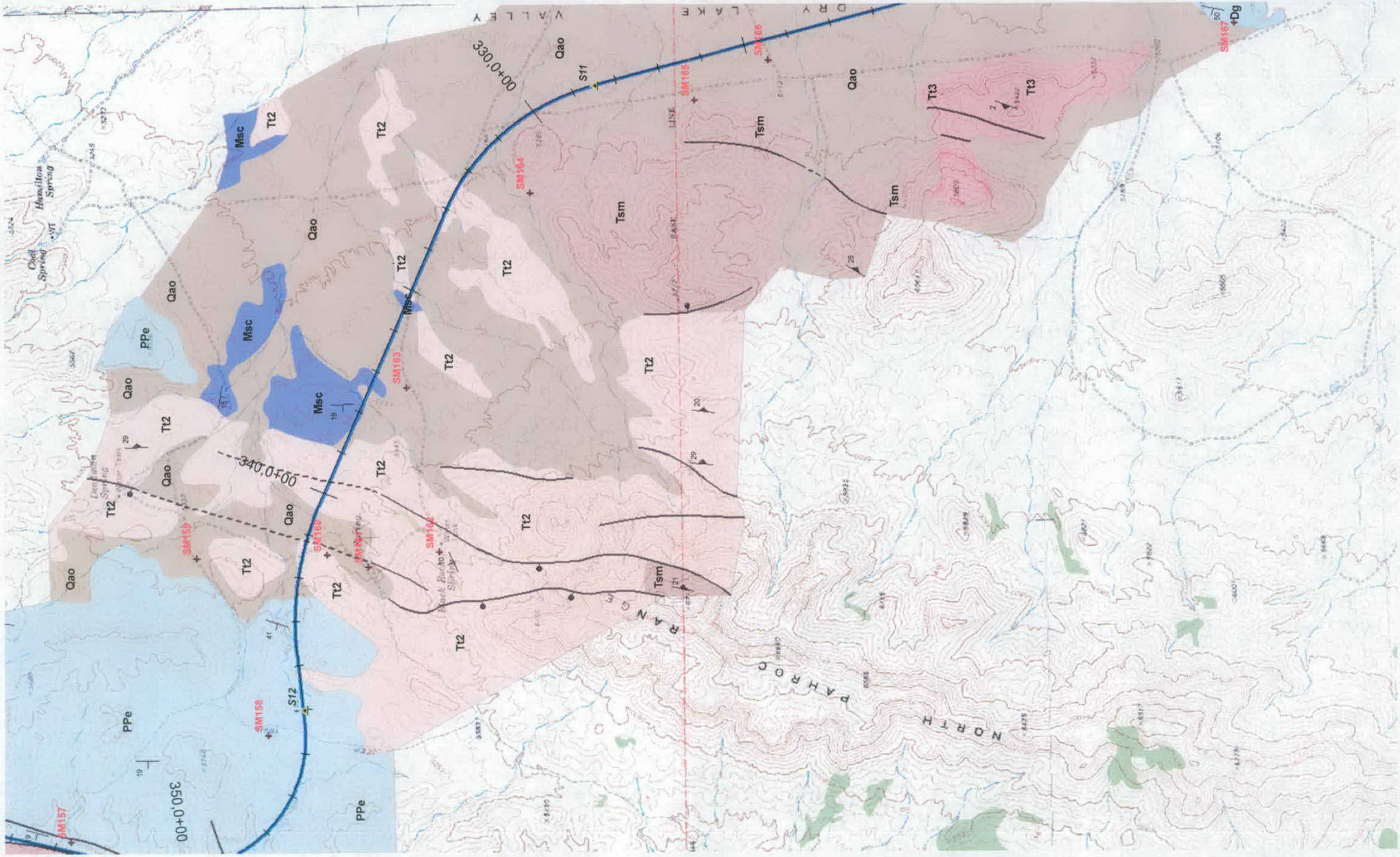
FIGURE 3 (Sheet 7 of 71)



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CALIENTE RAIL CORRIDOR
YUCCA MOUNTAIN PROJECT, NEVADA

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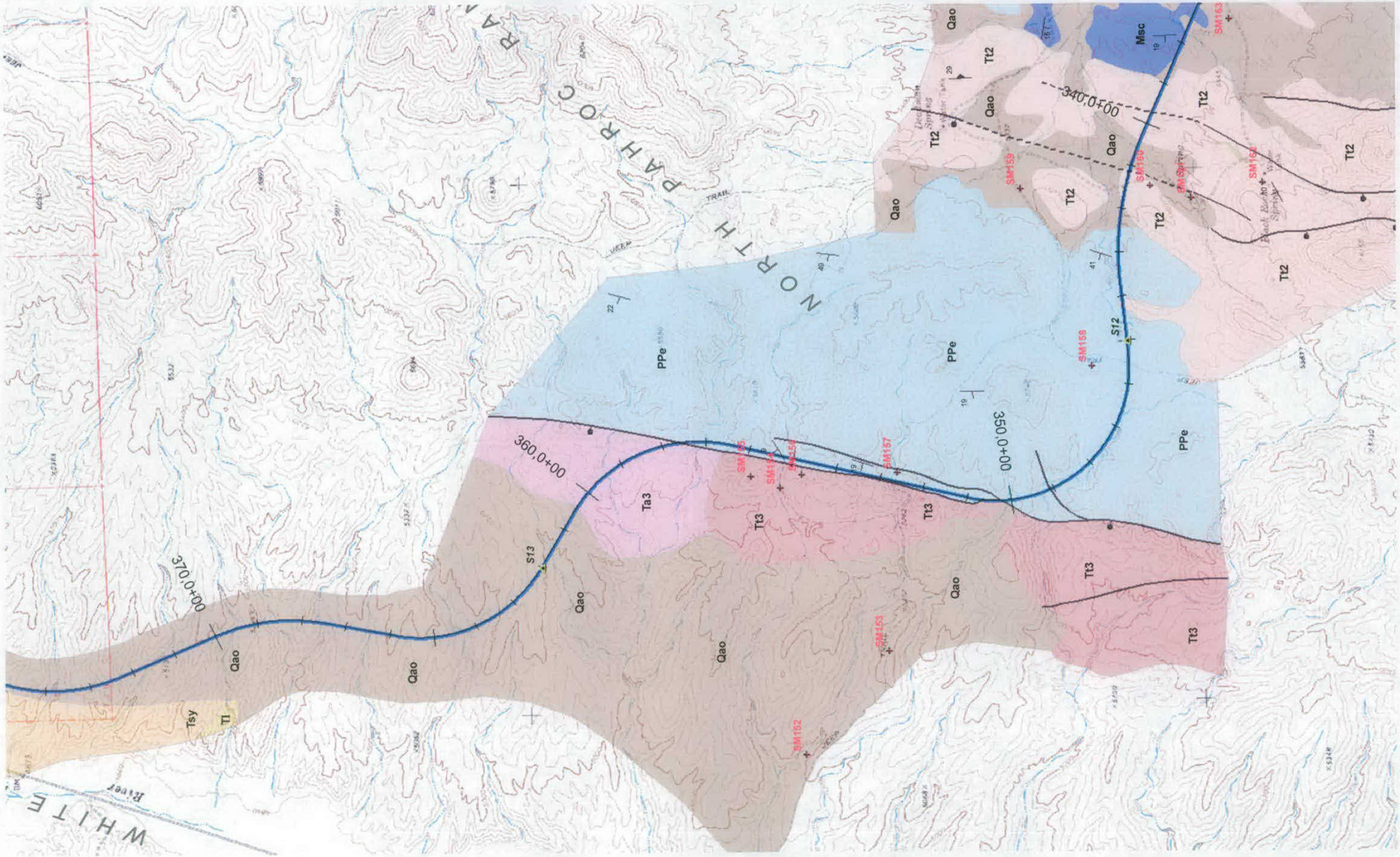
FIGURE 3 (Sheet 8 of 71)



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YUCCA MOUNTAIN PROJECT, NEVADA

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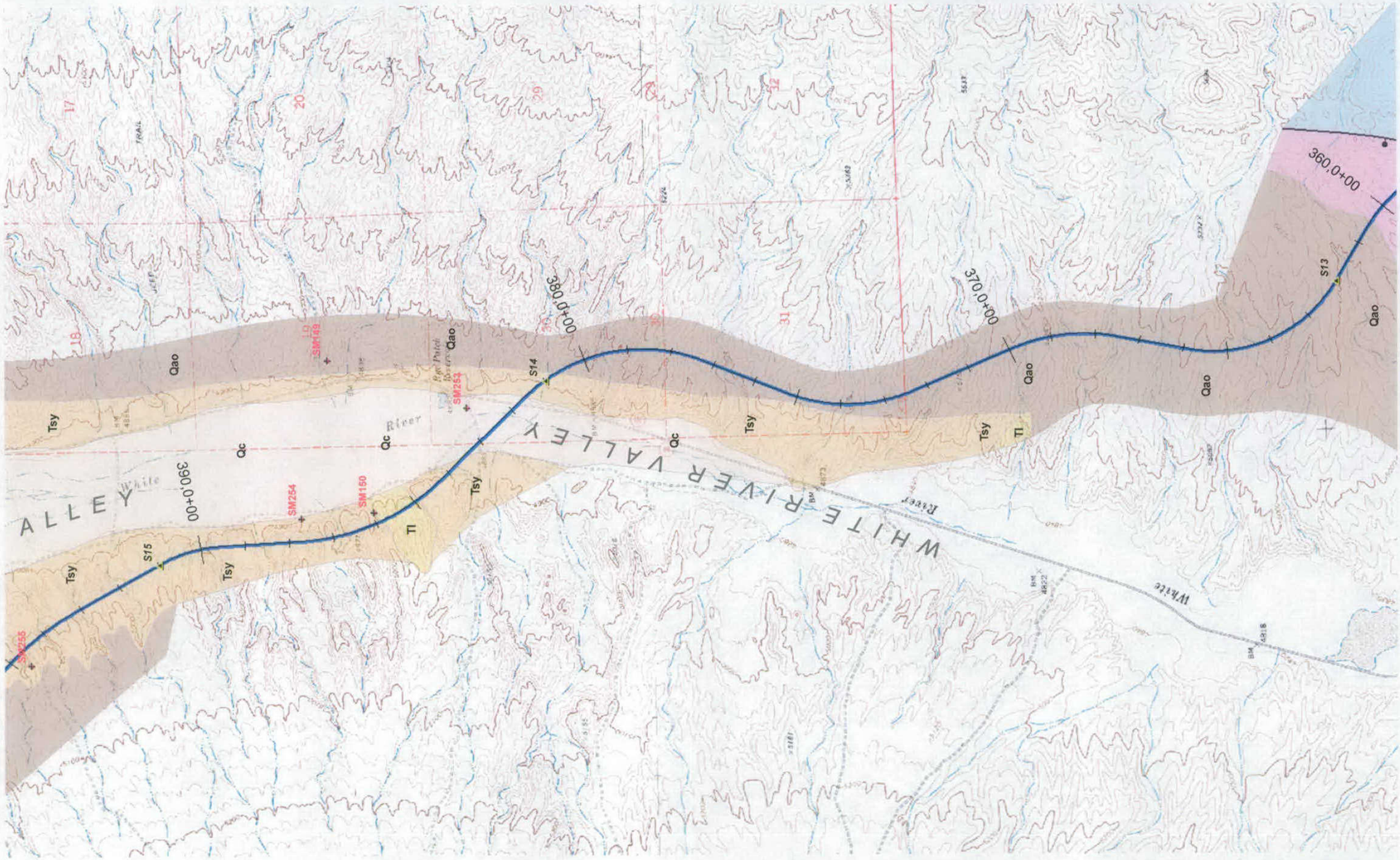

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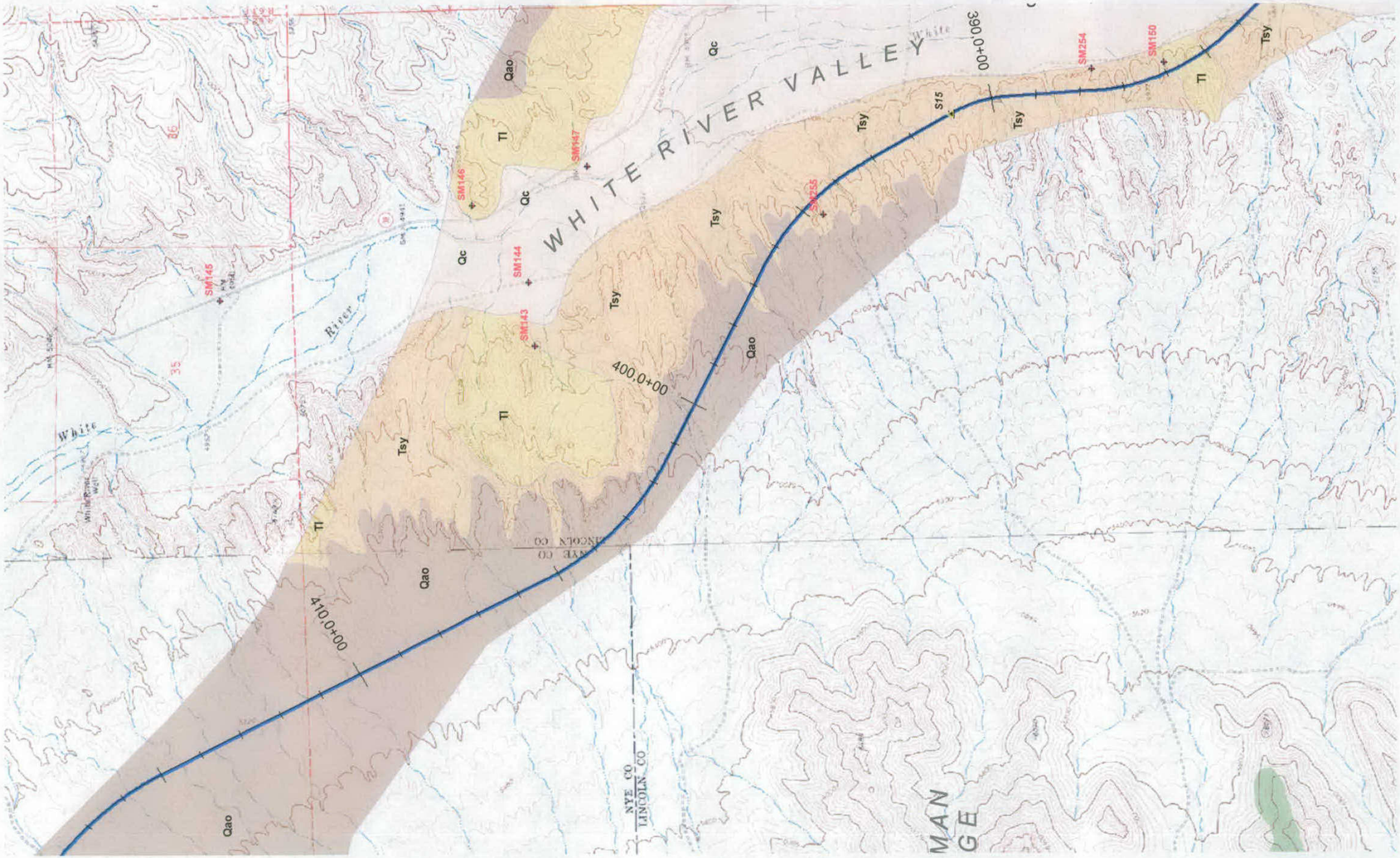

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CALIENTE RAIL CORRIDOR
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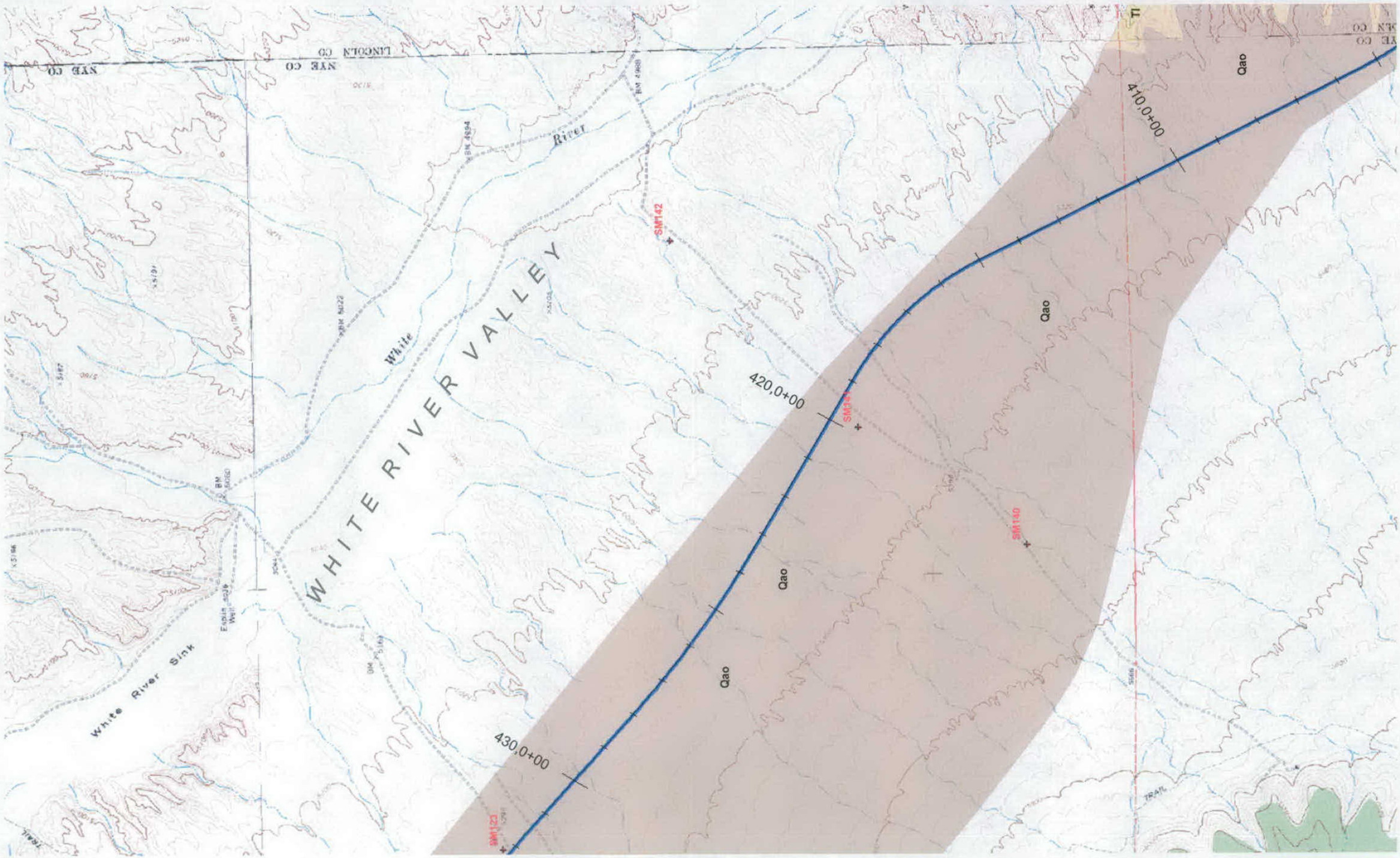
FIGURE 3 (Sheet 11 of 71)



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CALIENTE RAIL CORRIDOR
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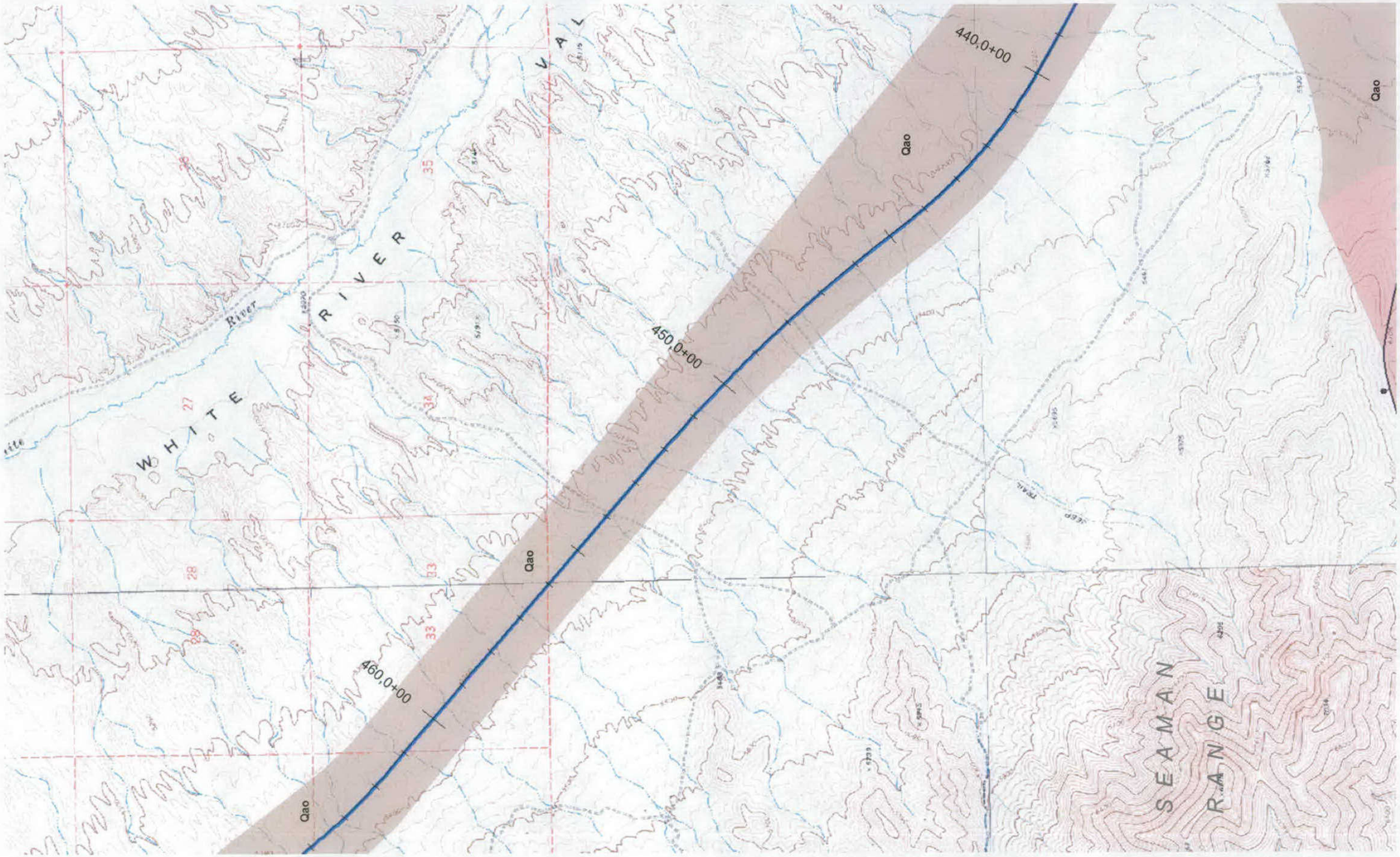

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CALIENTE RAIL CORRIDOR
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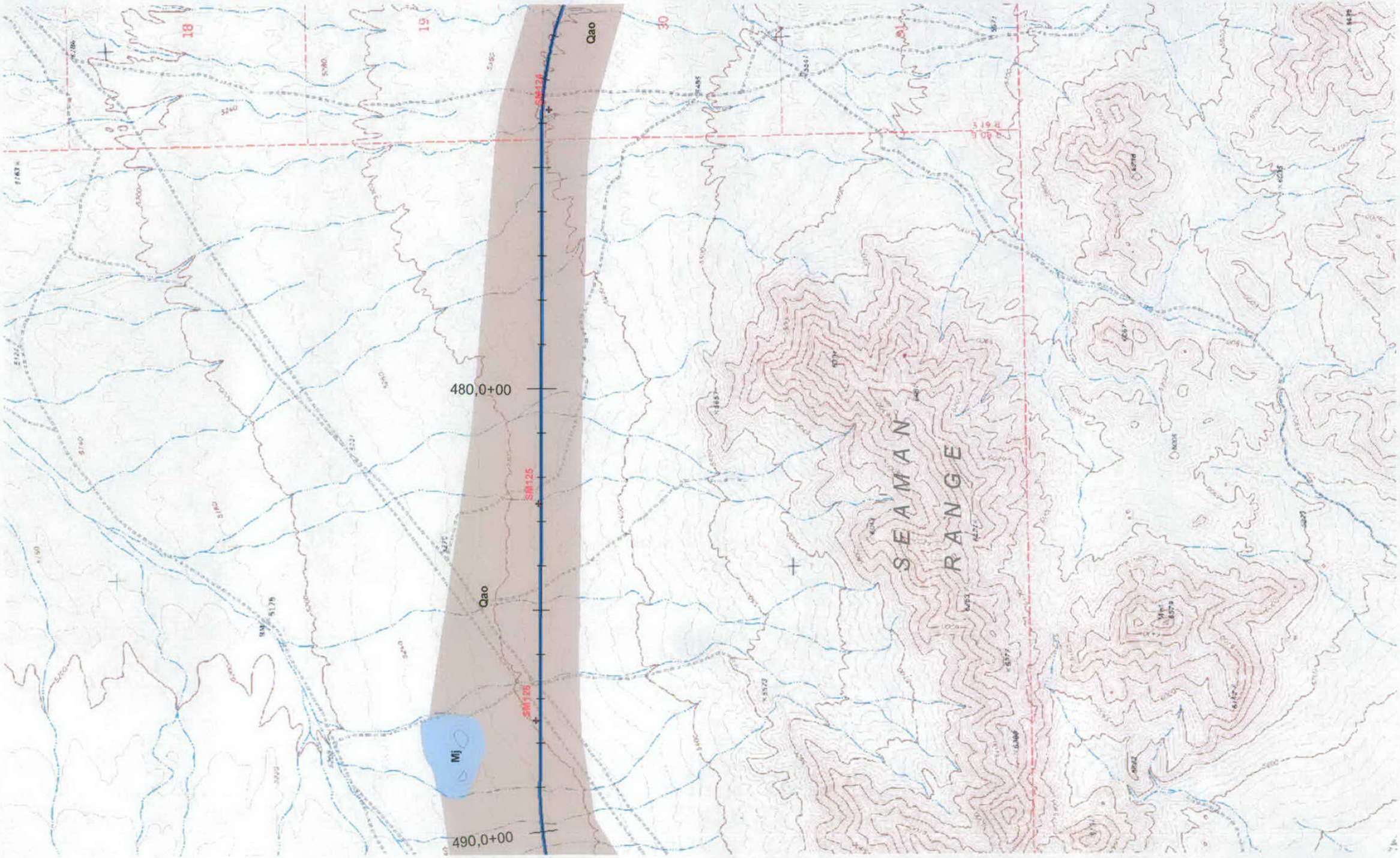
FIGURE 3 (Sheet 13 of 71)



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CALIENTE RAIL CORRIDOR
YUCCA MOUNTAIN PROJECT, NEVADA

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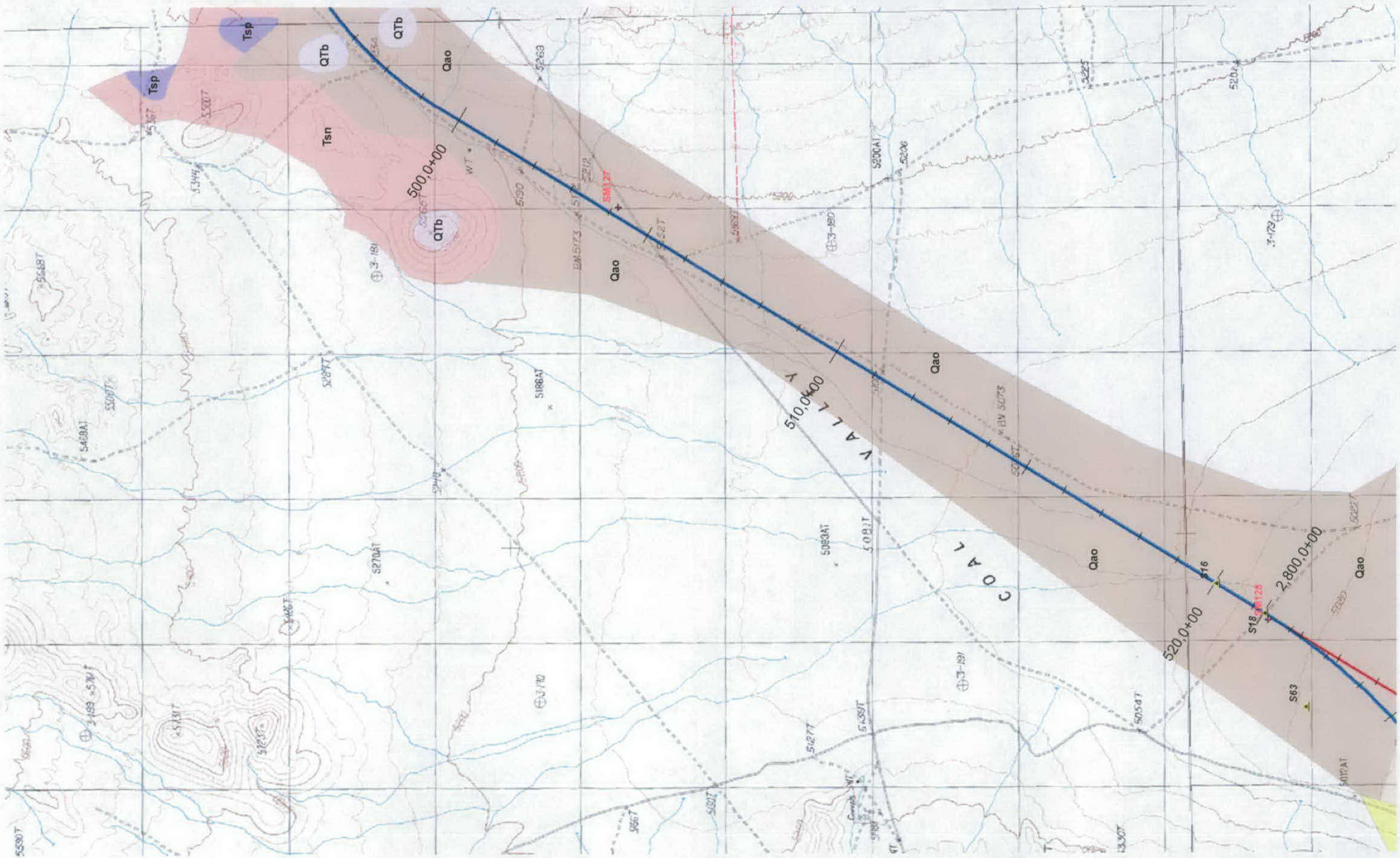

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CALIENTE RAIL CORRIDOR
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FIGURE 3 (Sheet 15 of 71)

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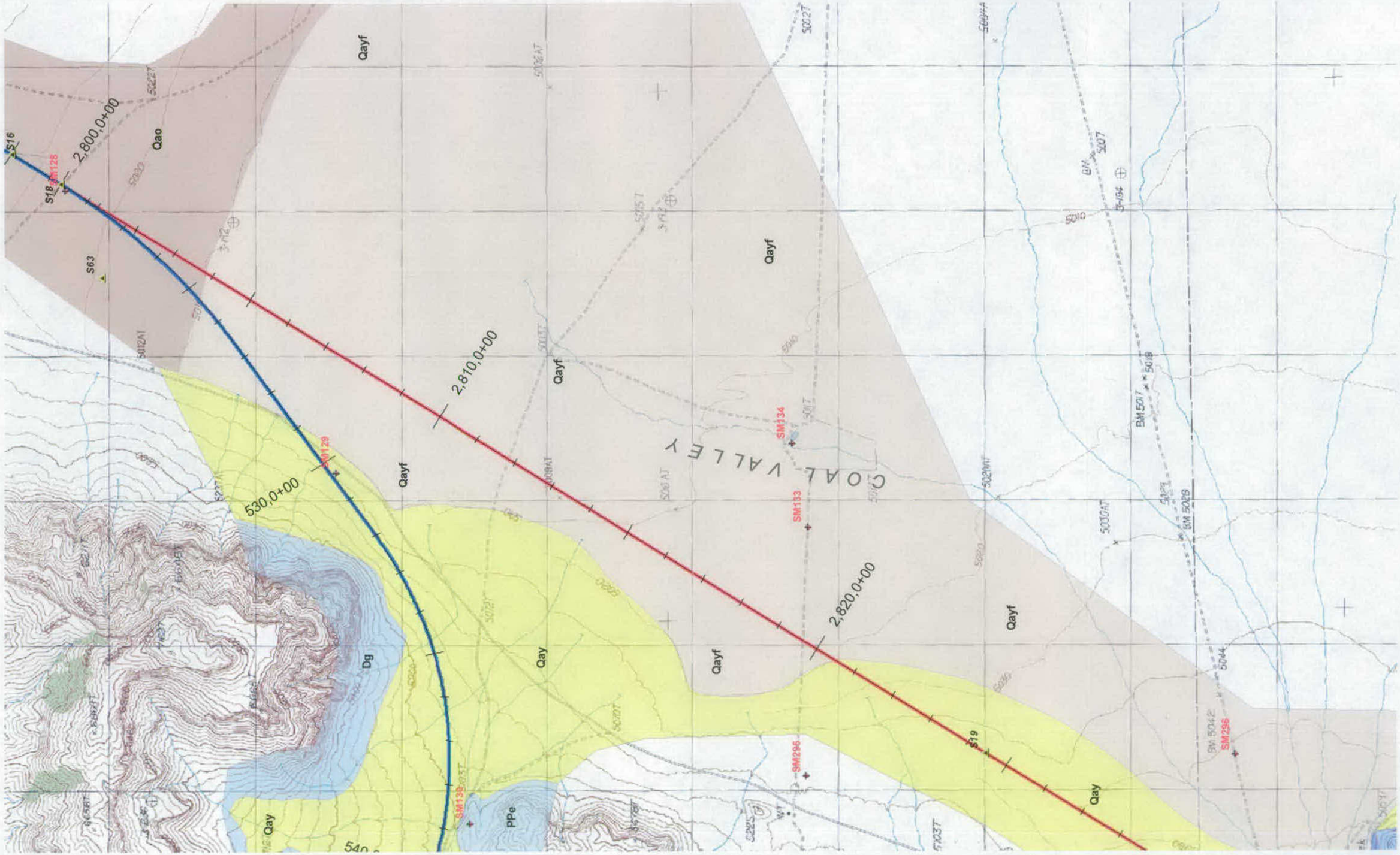

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CALIENTE RAIL CORRIDOR
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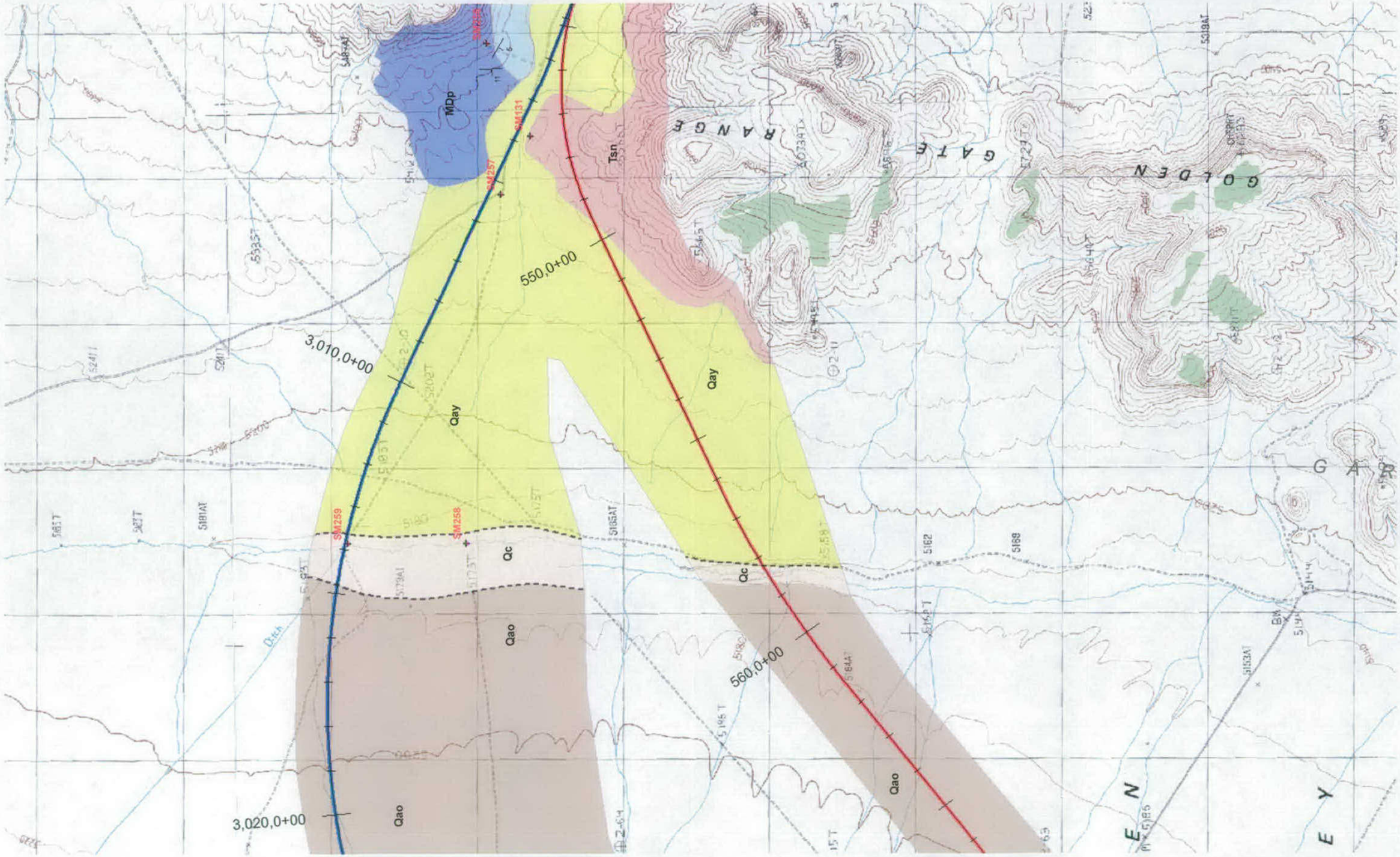
FIGURE 3 (Sheet 16 of 71)



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CALIENTE RAIL CORRIDOR
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FIGURE 3 (Sheet 17 of 71)

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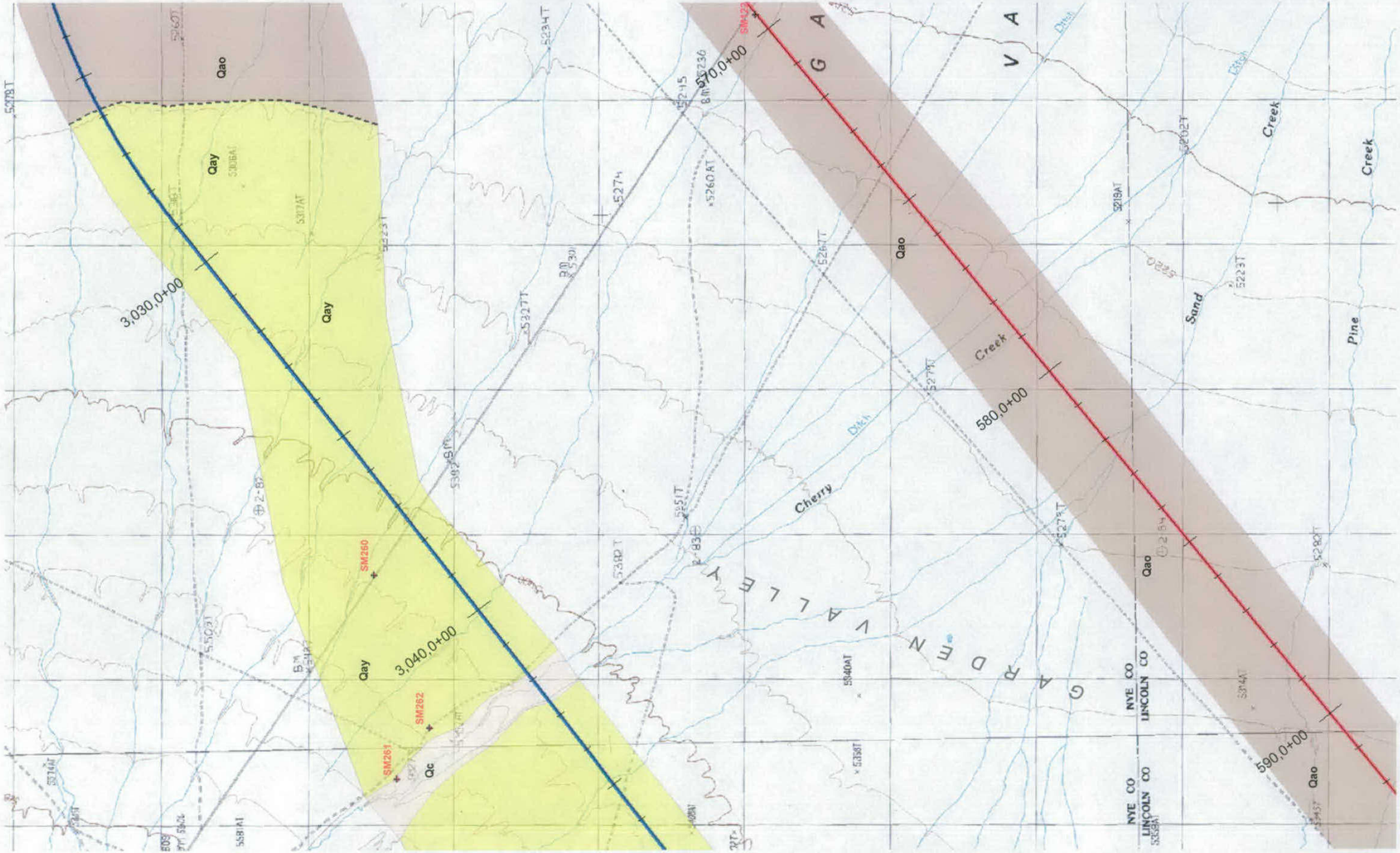

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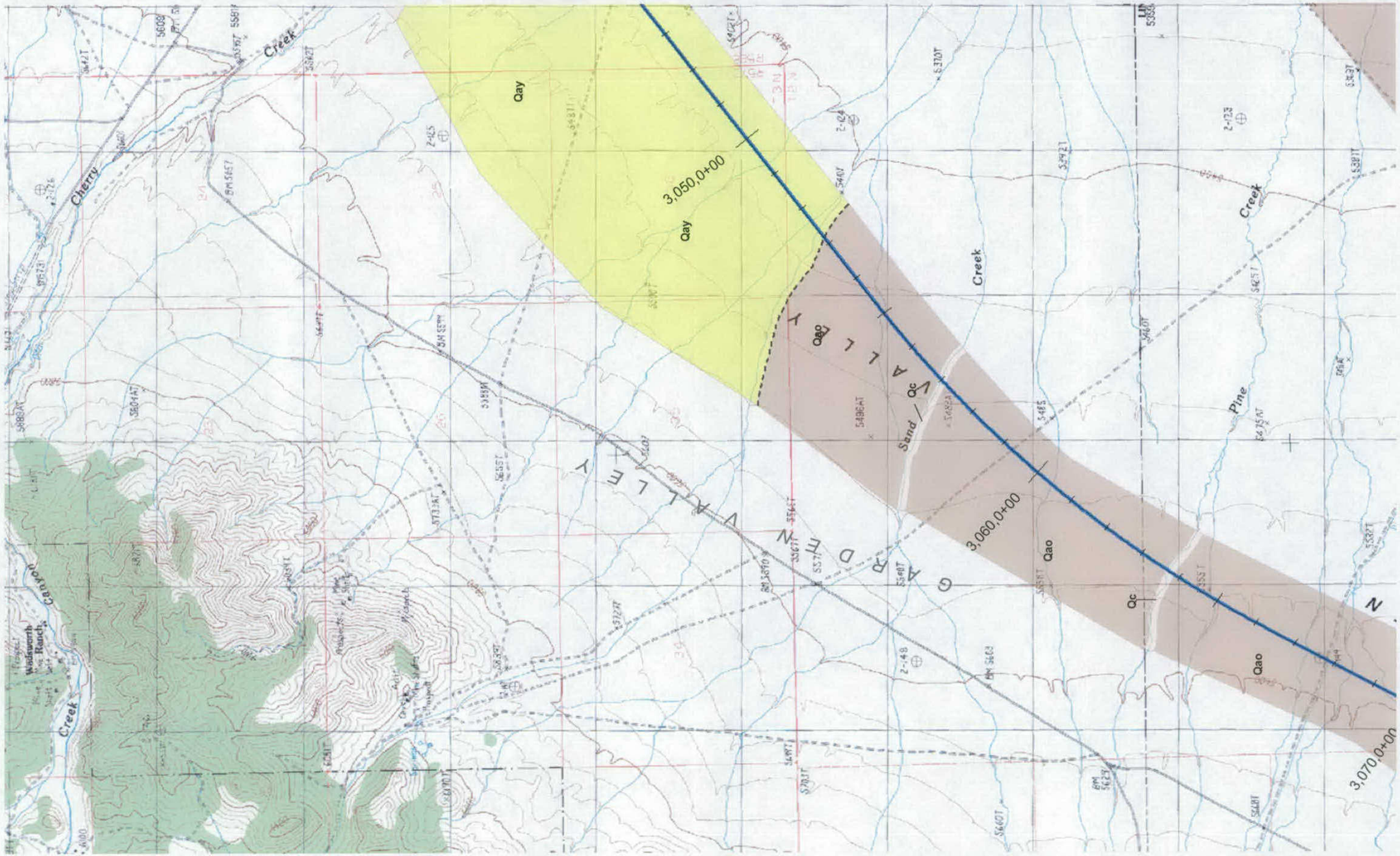
YUCCA MOUNTAIN PROJECT, NEVADA

Preliminary Geotechnical Report
DETAIL MAPS

FIGURE 3 (Sheet 18 of 71)



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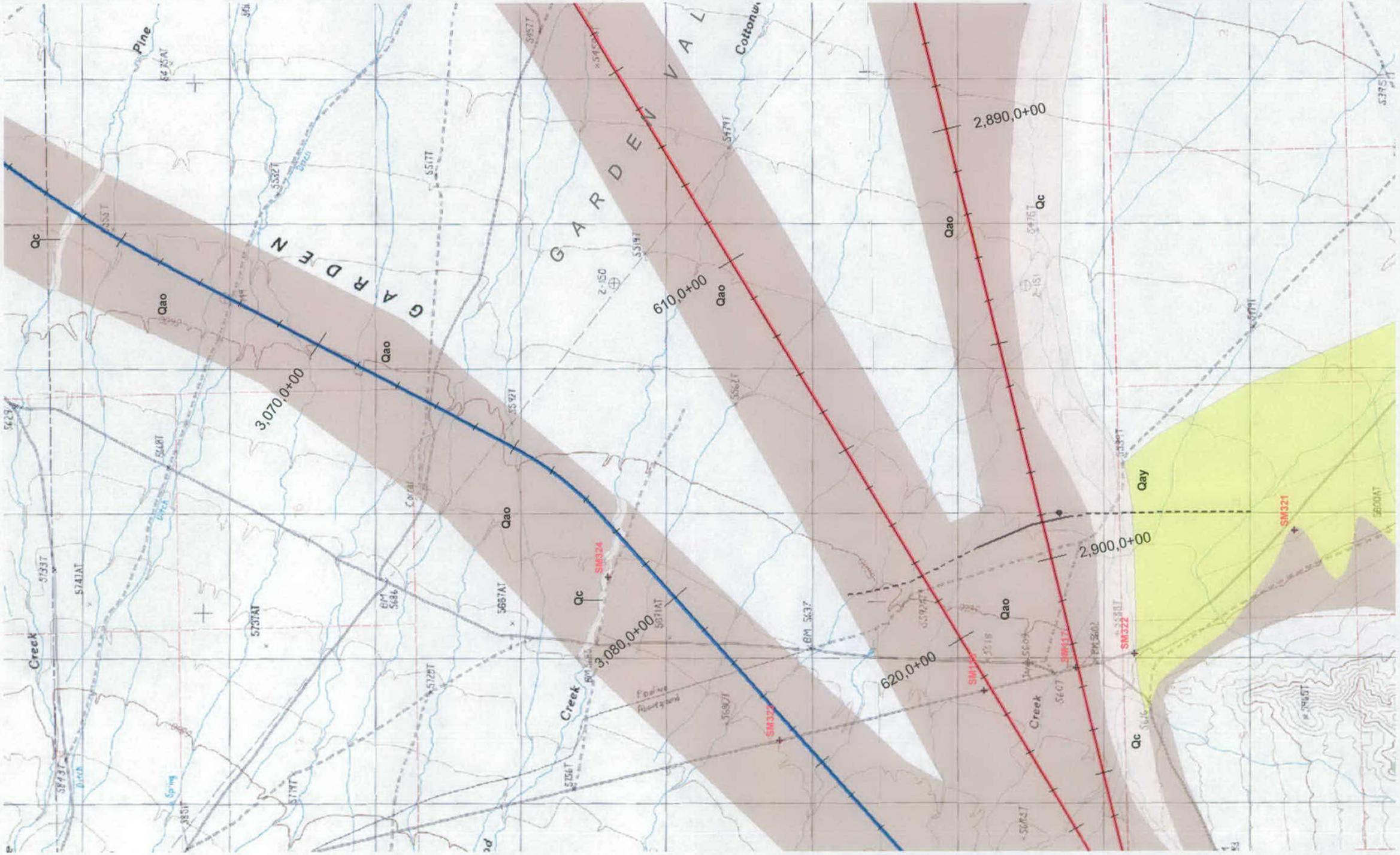
YUCCA MOUNTAIN PROJECT, NEVADA

Preliminary Geotechnical Report
DETAIL MAPS

FIGURE 3 (Sheet 19 of 71)



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YUCCA MOUNTAIN PROJECT, NEVADA

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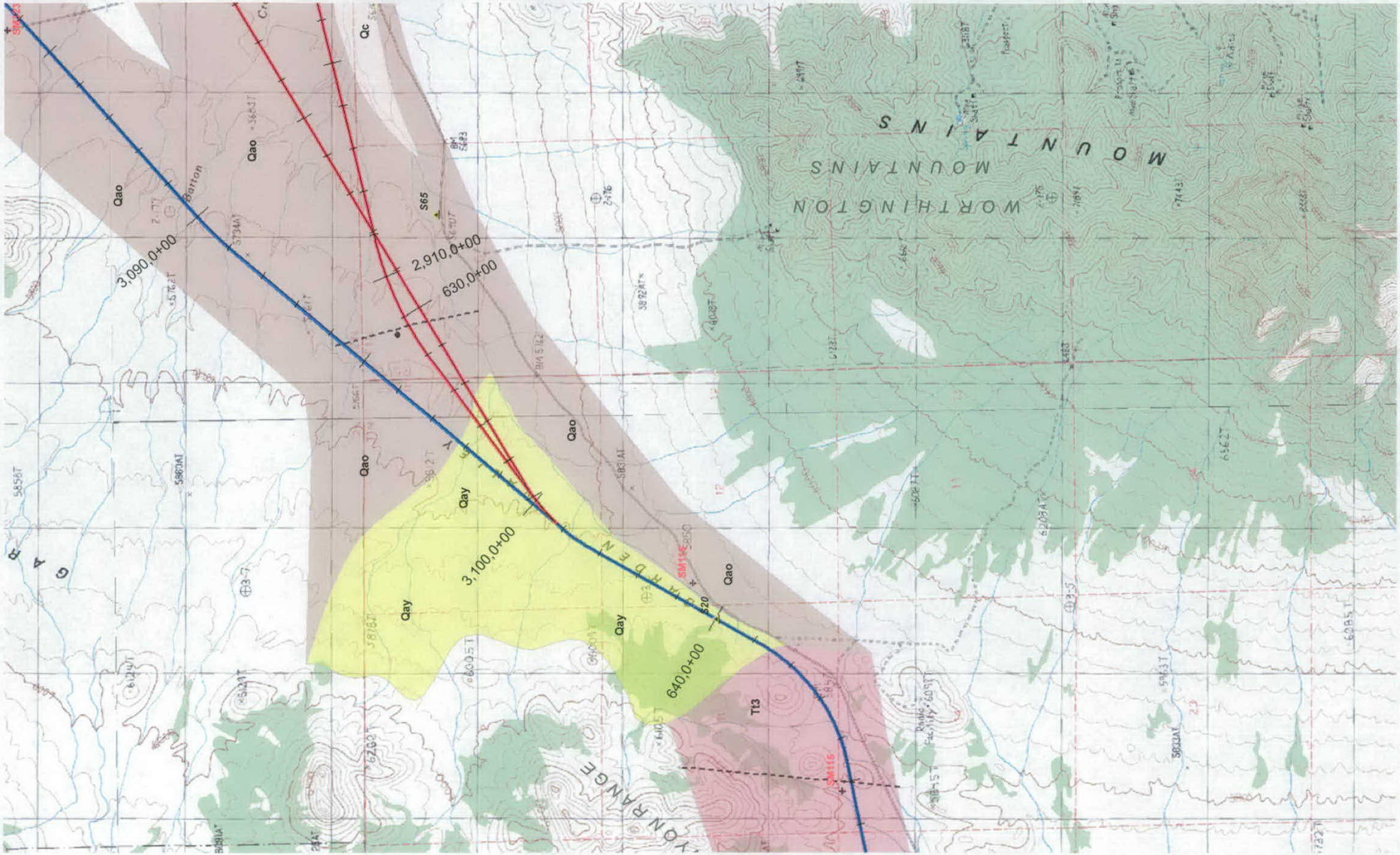
DETAIL MAPS

FIGURE 3 (Sheet 20 of 71)



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YUCCA MOUNTAIN PROJECT, NEVADA

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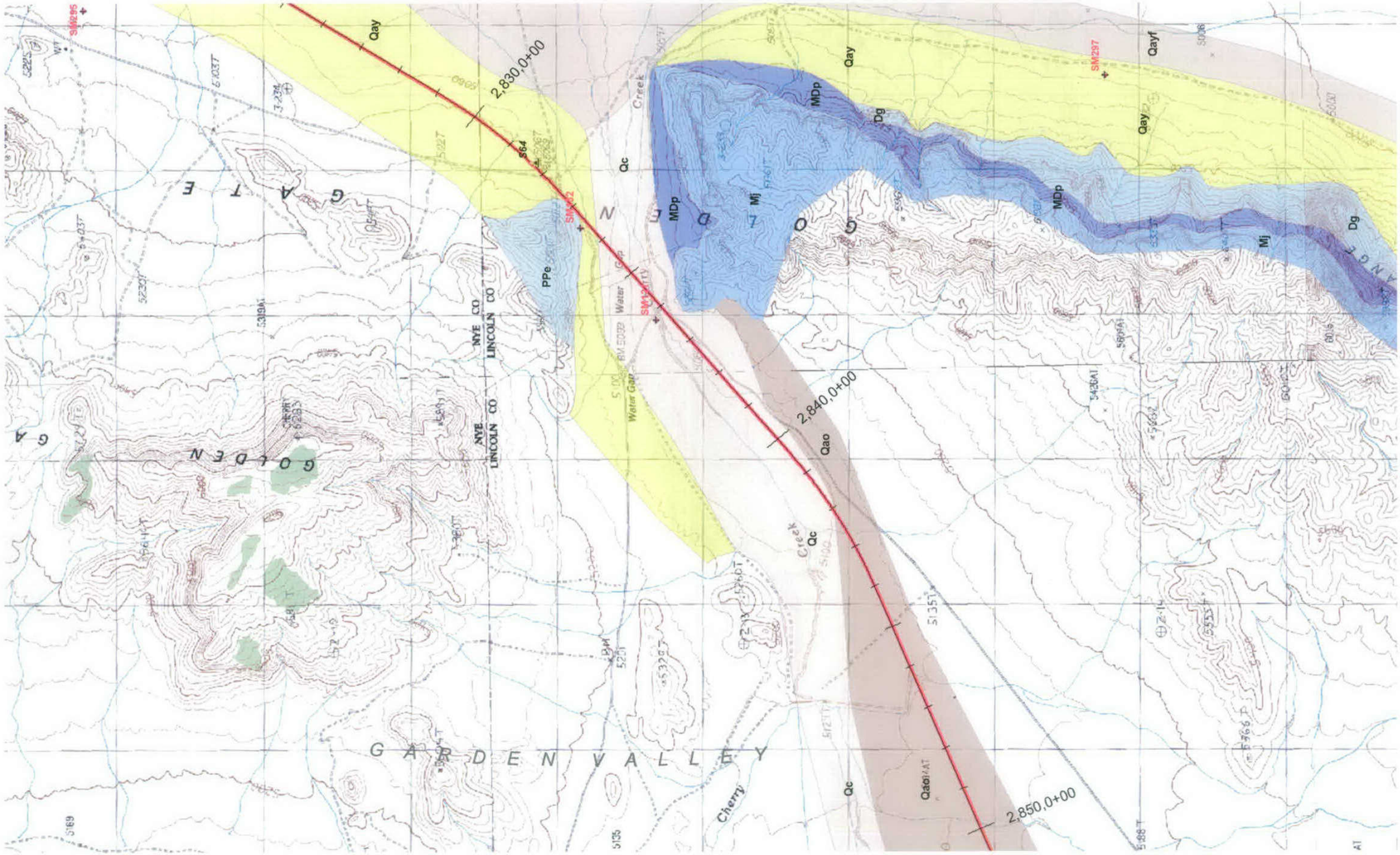
DETAIL MAPS

FIGURE 3 (Sheet 21 of 71)



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YUCCA MOUNTAIN PROJECT, NEVADA

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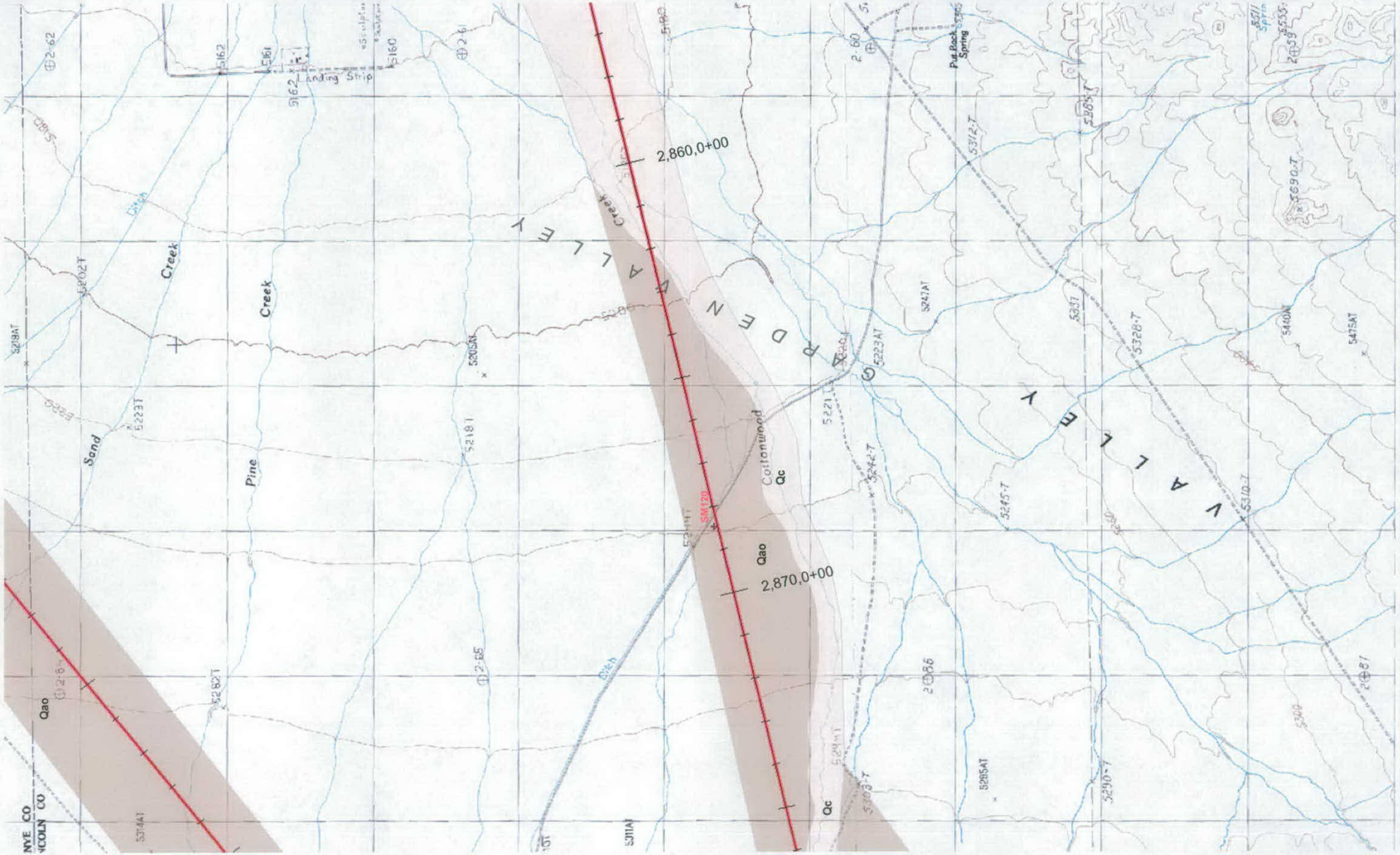
DETAIL MAPS
FIGURE 3 (Sheet 22 of 71)



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DETAIL MAPS
FIGURE 3 (Sheet 23 of 71)

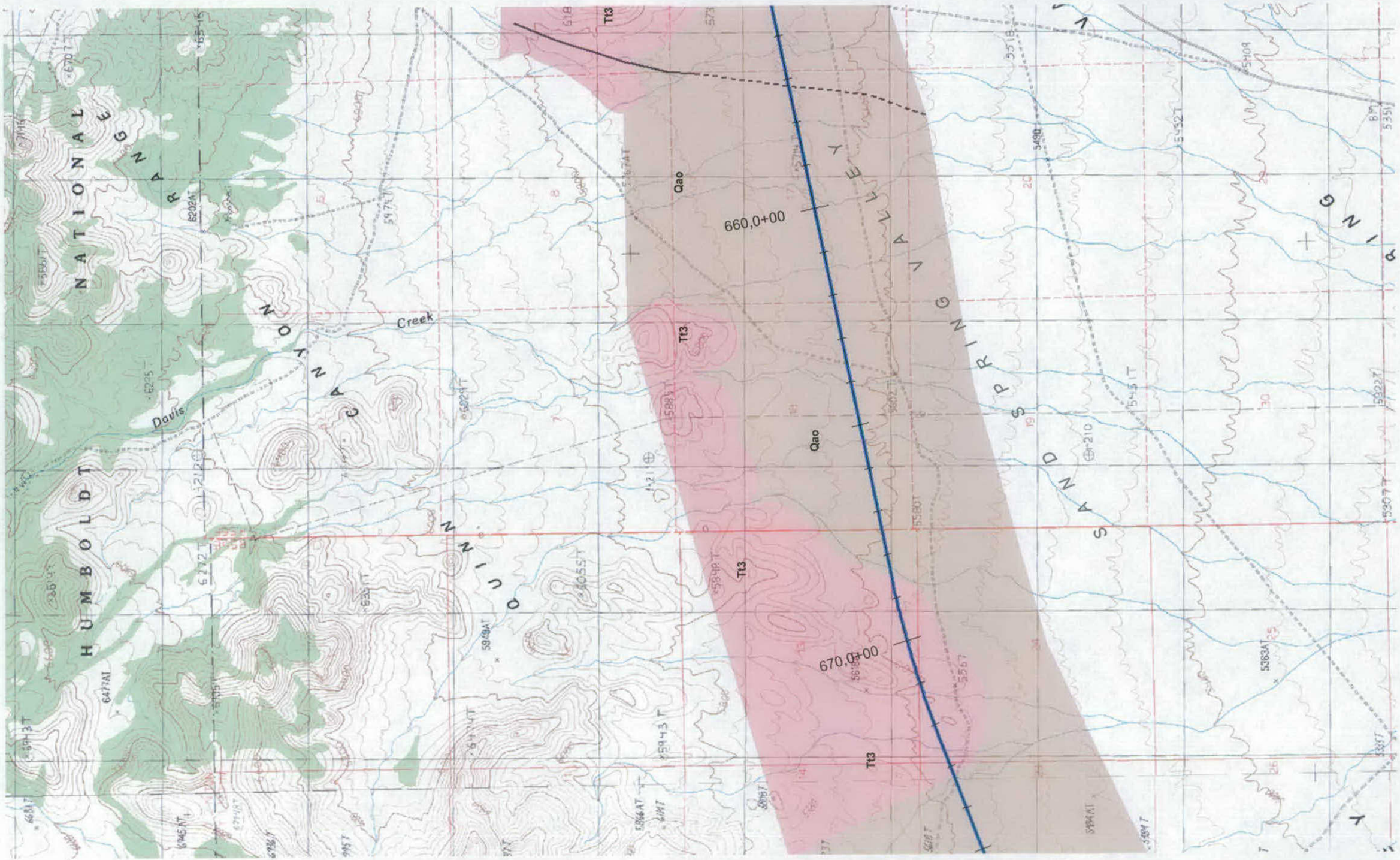

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FIGURE 3 (Sheet 24 of 71)

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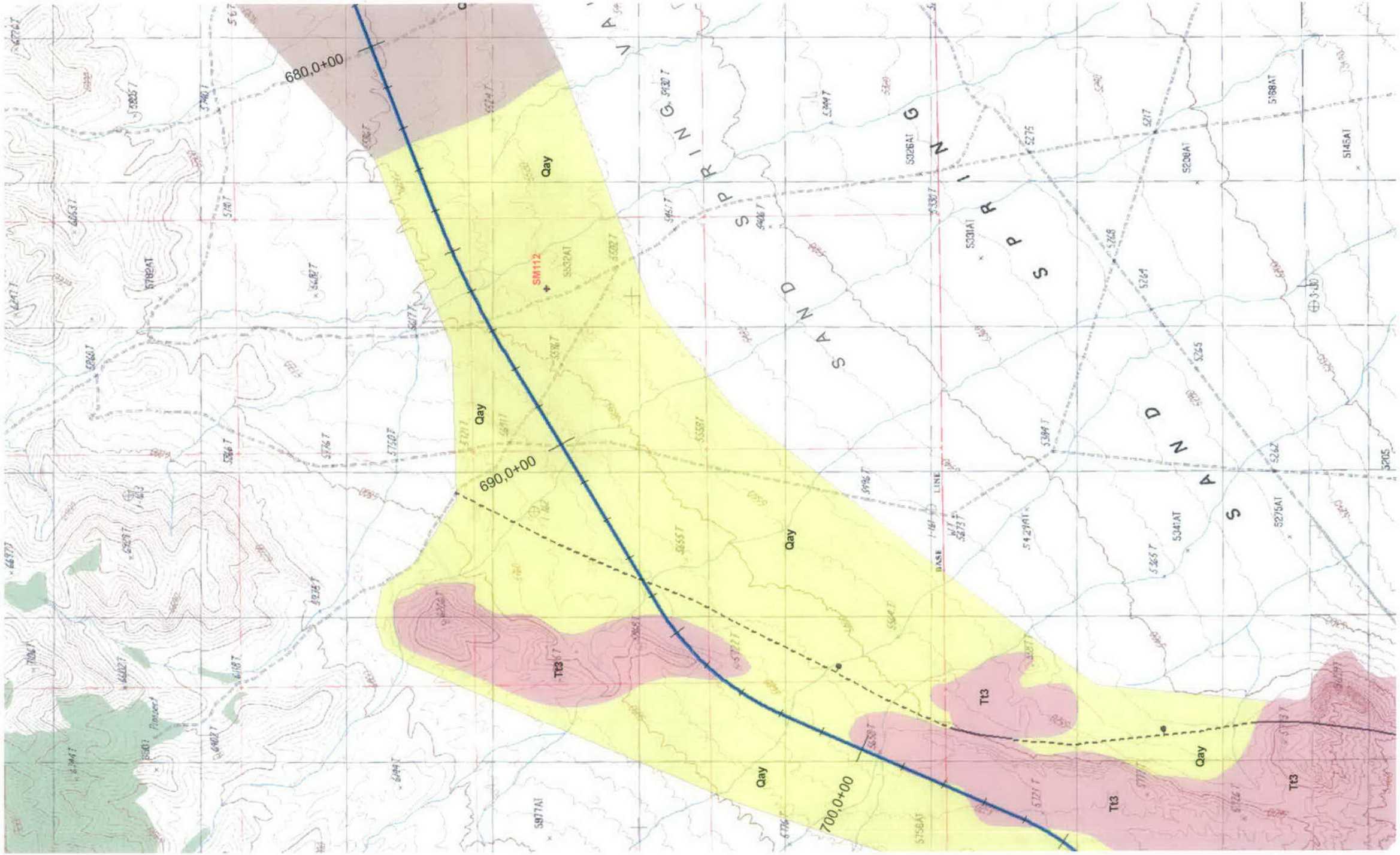

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DETAIL MAPS
FIGURE 3 (Sheet 25 of 71)

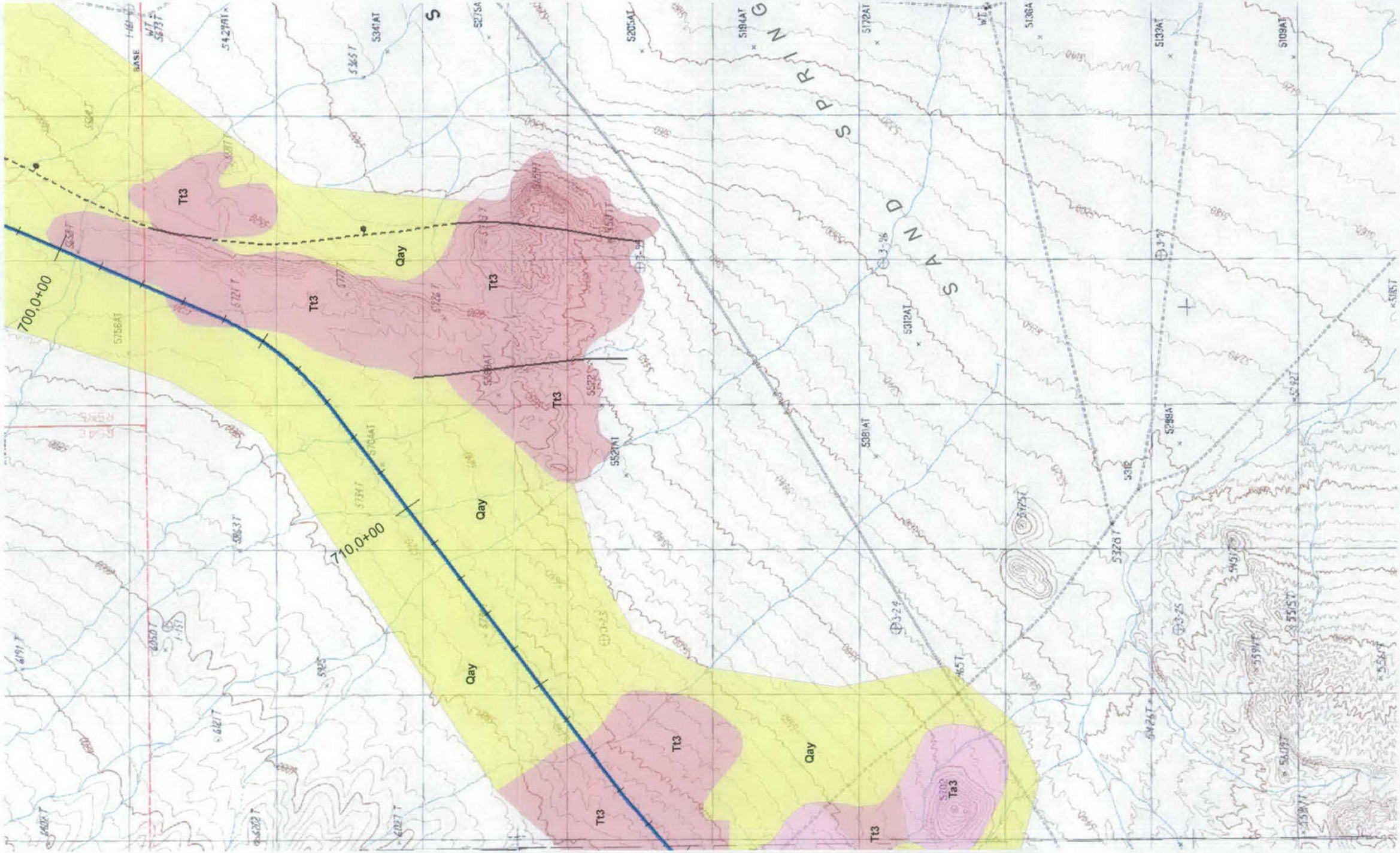

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FIGURE 3 (Sheet 26 of 71)

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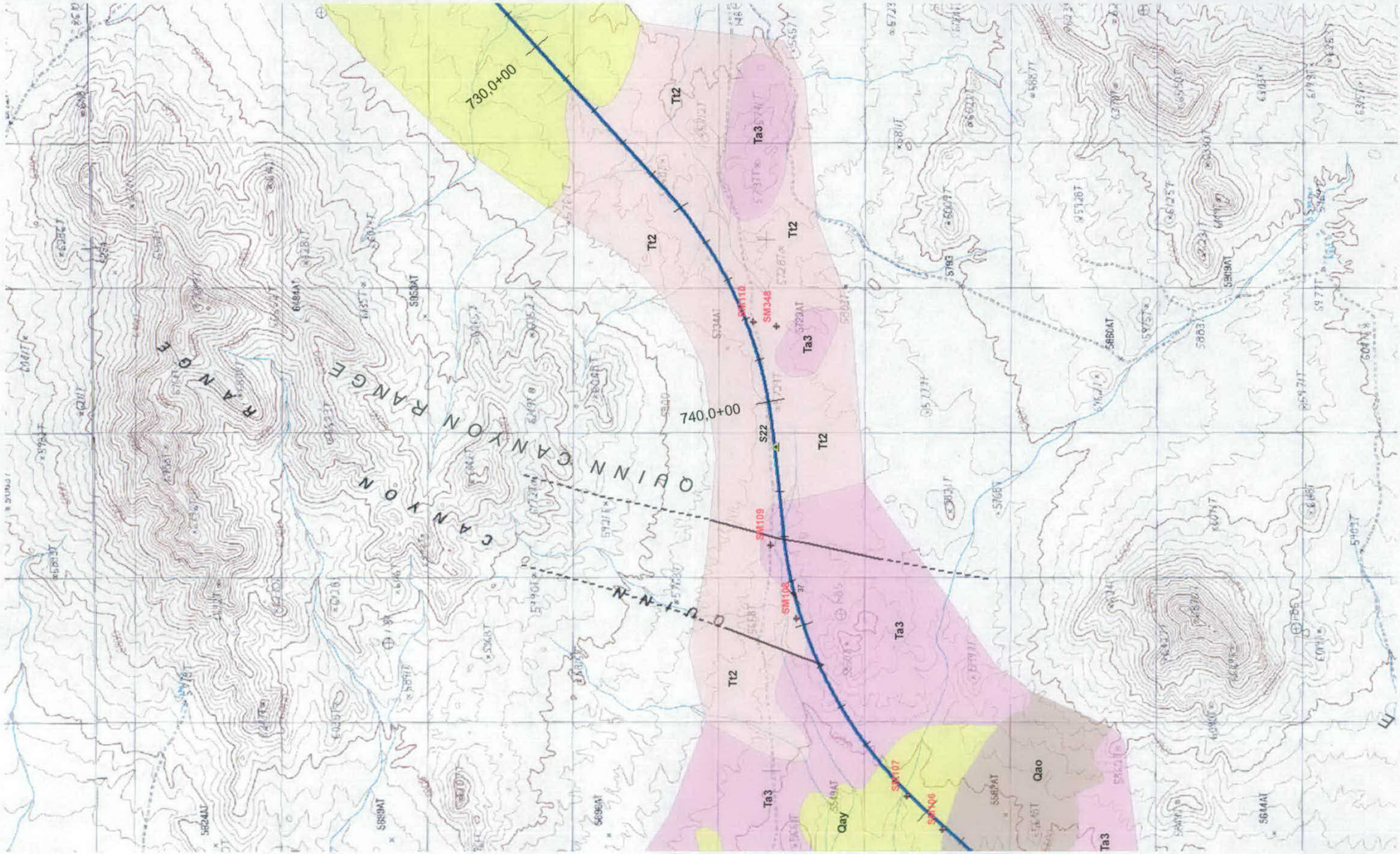

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DETAIL MAPS

FIGURE 3 (Sheet 27 of 71)

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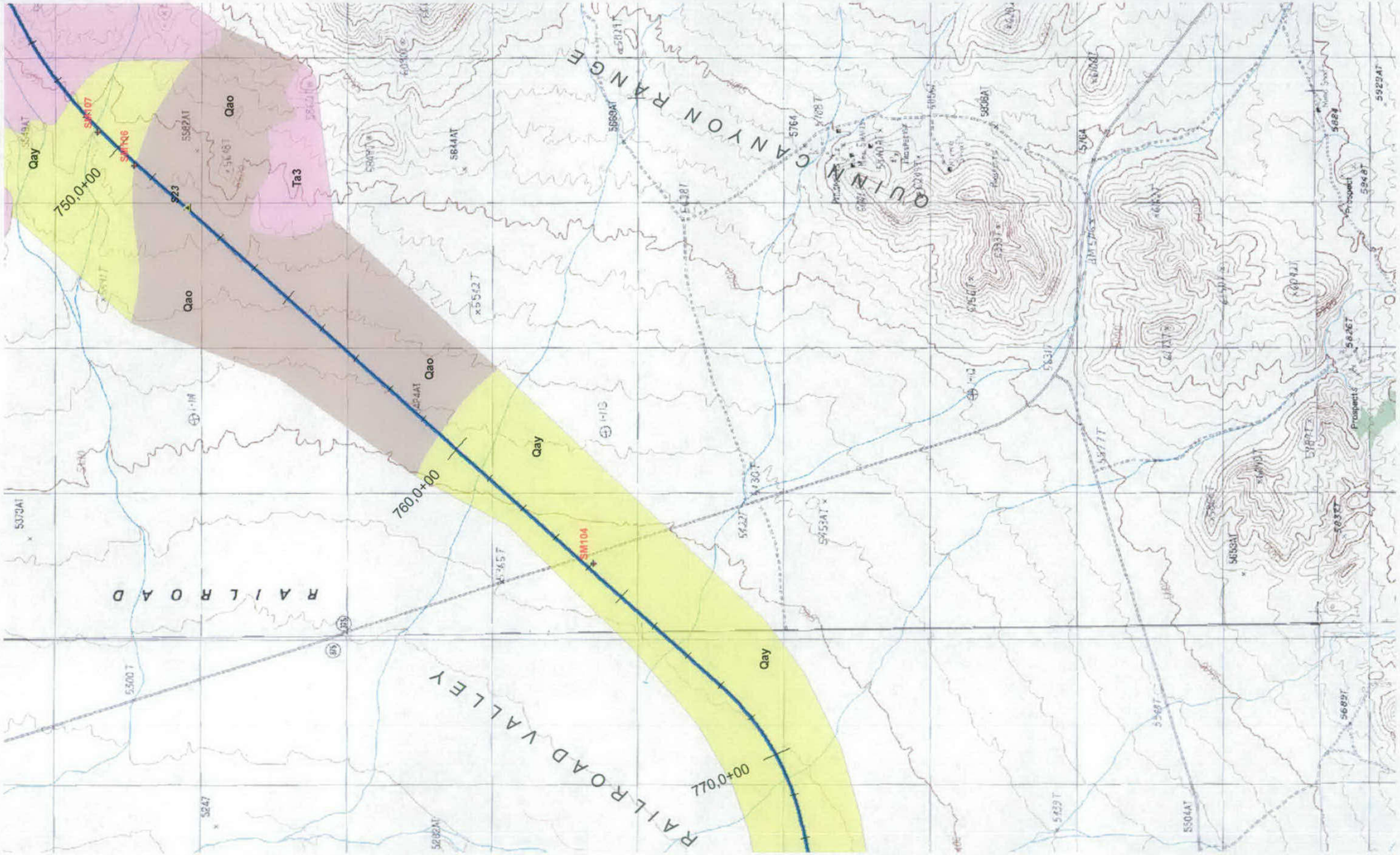

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YUCCA MOUNTAIN PROJECT, NEVADA

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FIGURE 3 (Sheet 28 of 71)

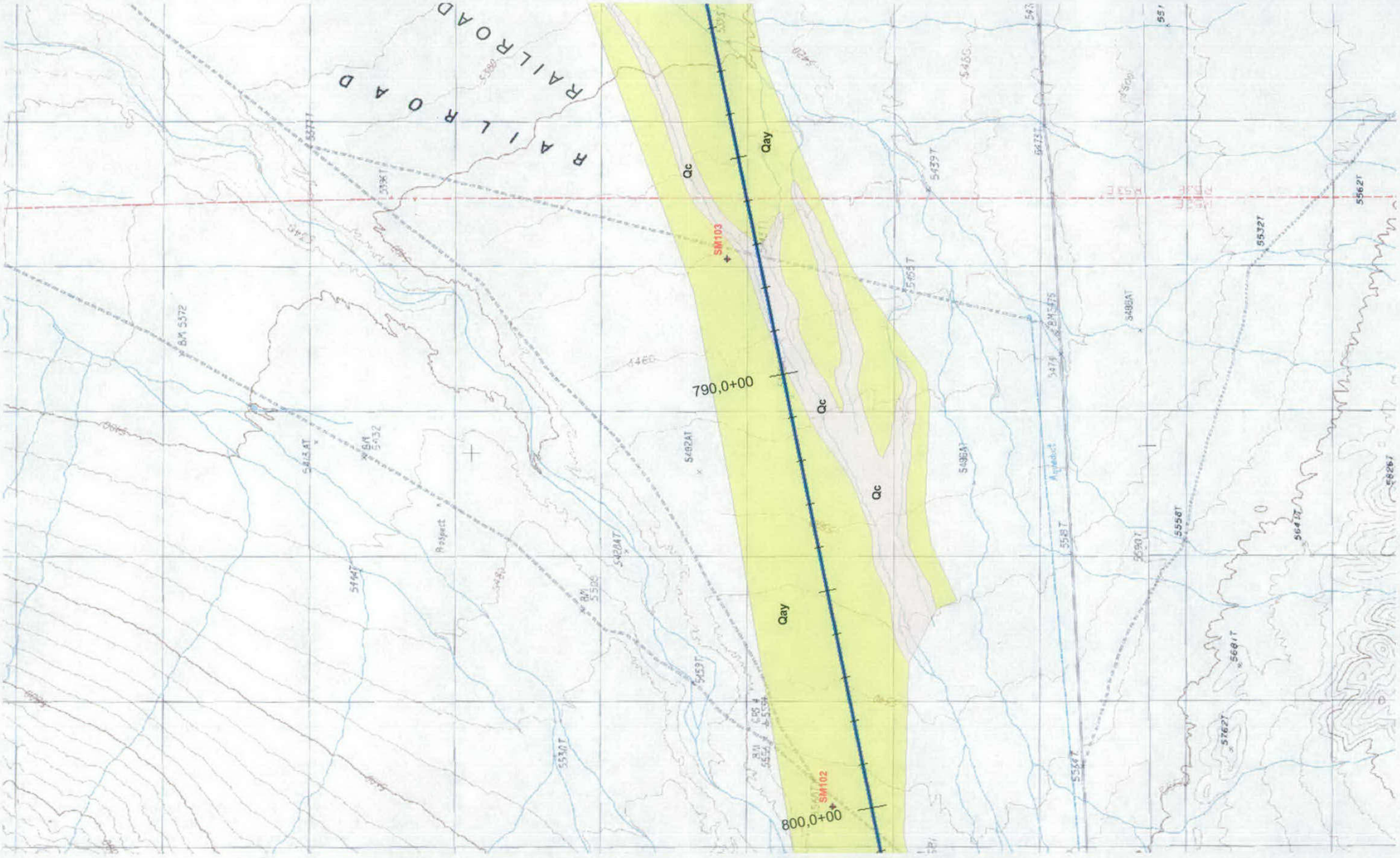

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FIGURE 3 (Sheet 29 of 71)

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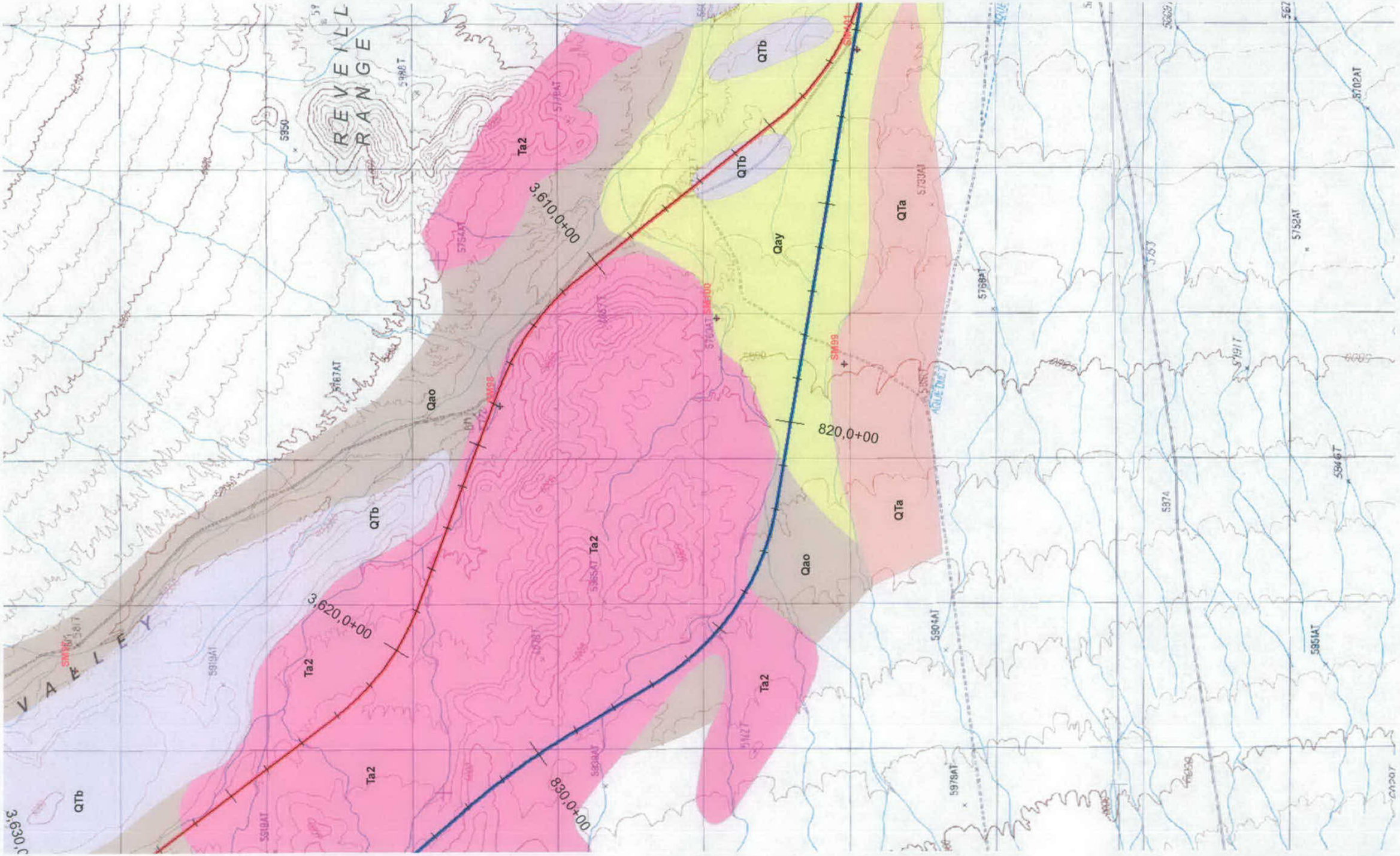

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FIGURE 3 (Sheet 30 of 71)

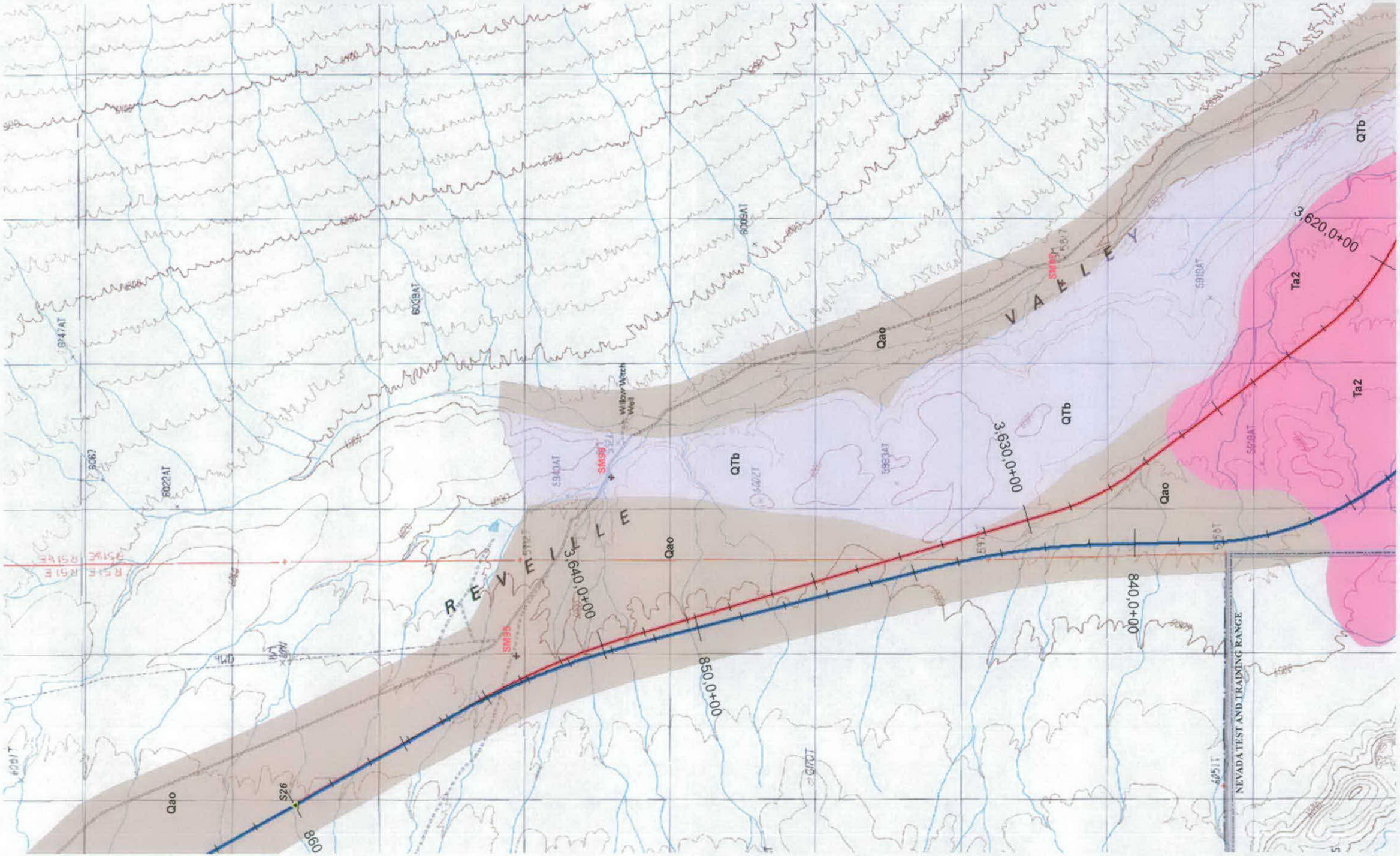

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FIGURE 3 (Sheet 31 of 71)

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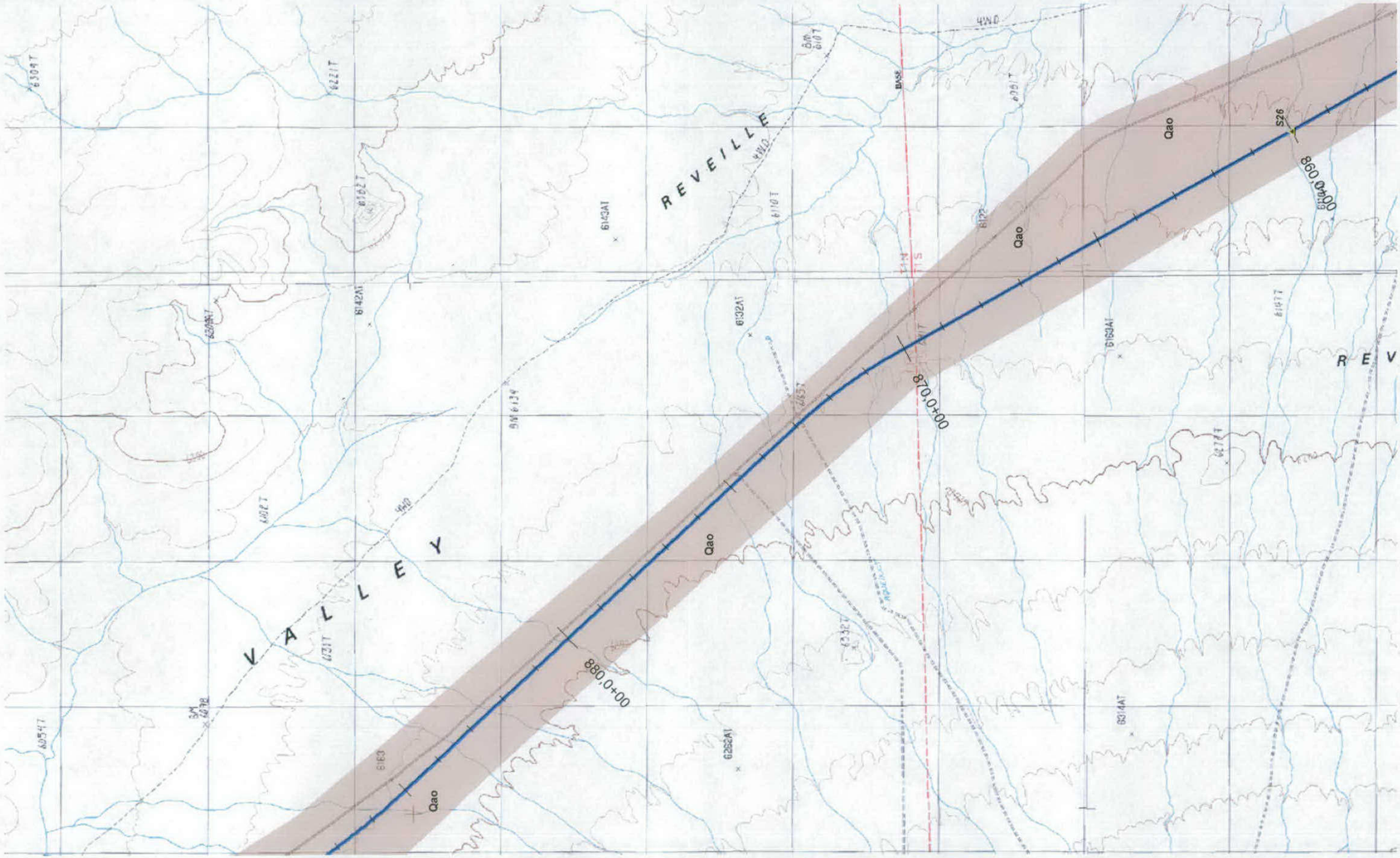

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FIGURE 3 (Sheet 32 of 71)

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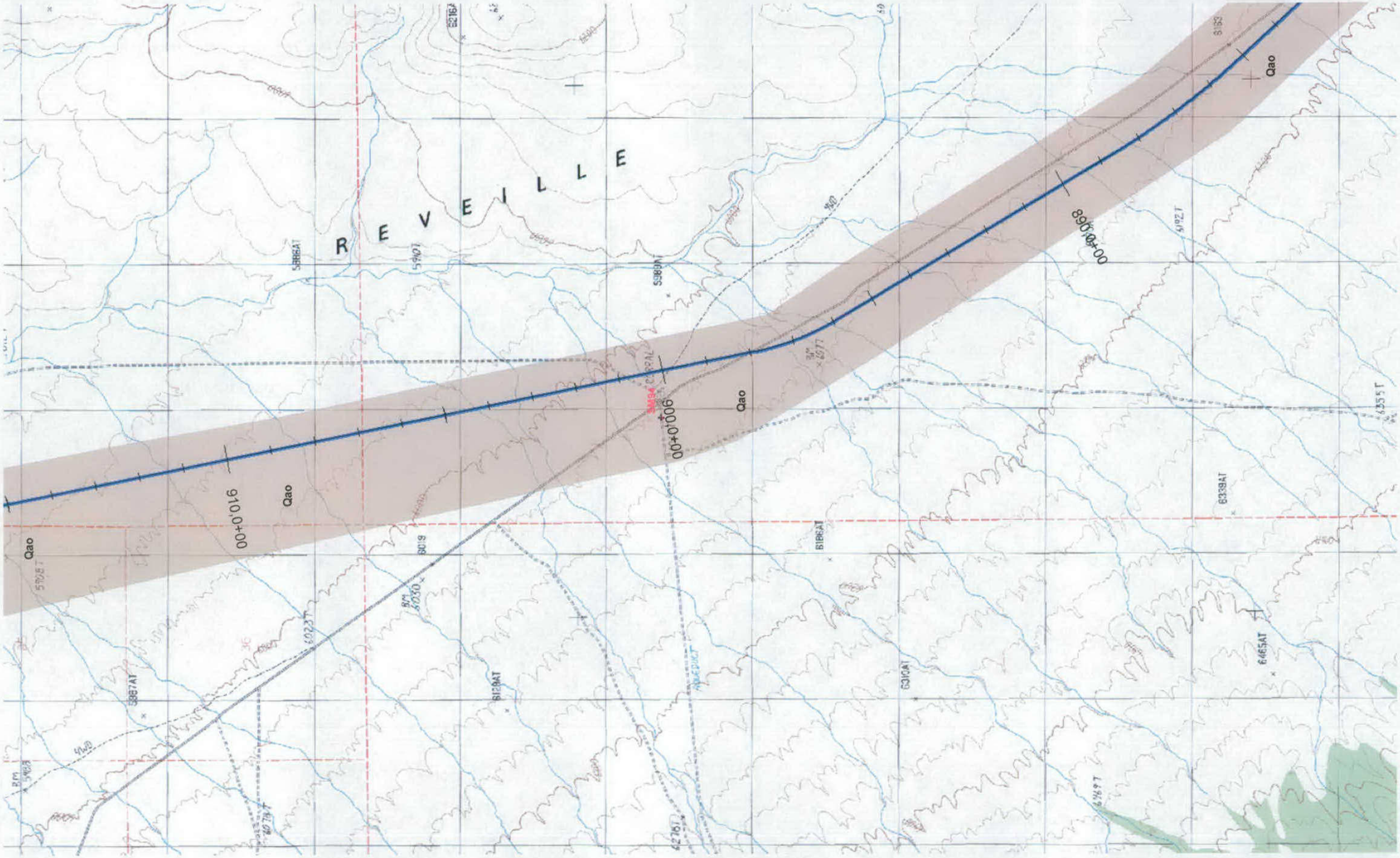

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YUCCA MOUNTAIN PROJECT, NEVADA

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FIGURE 3 (Sheet 33 of 71)

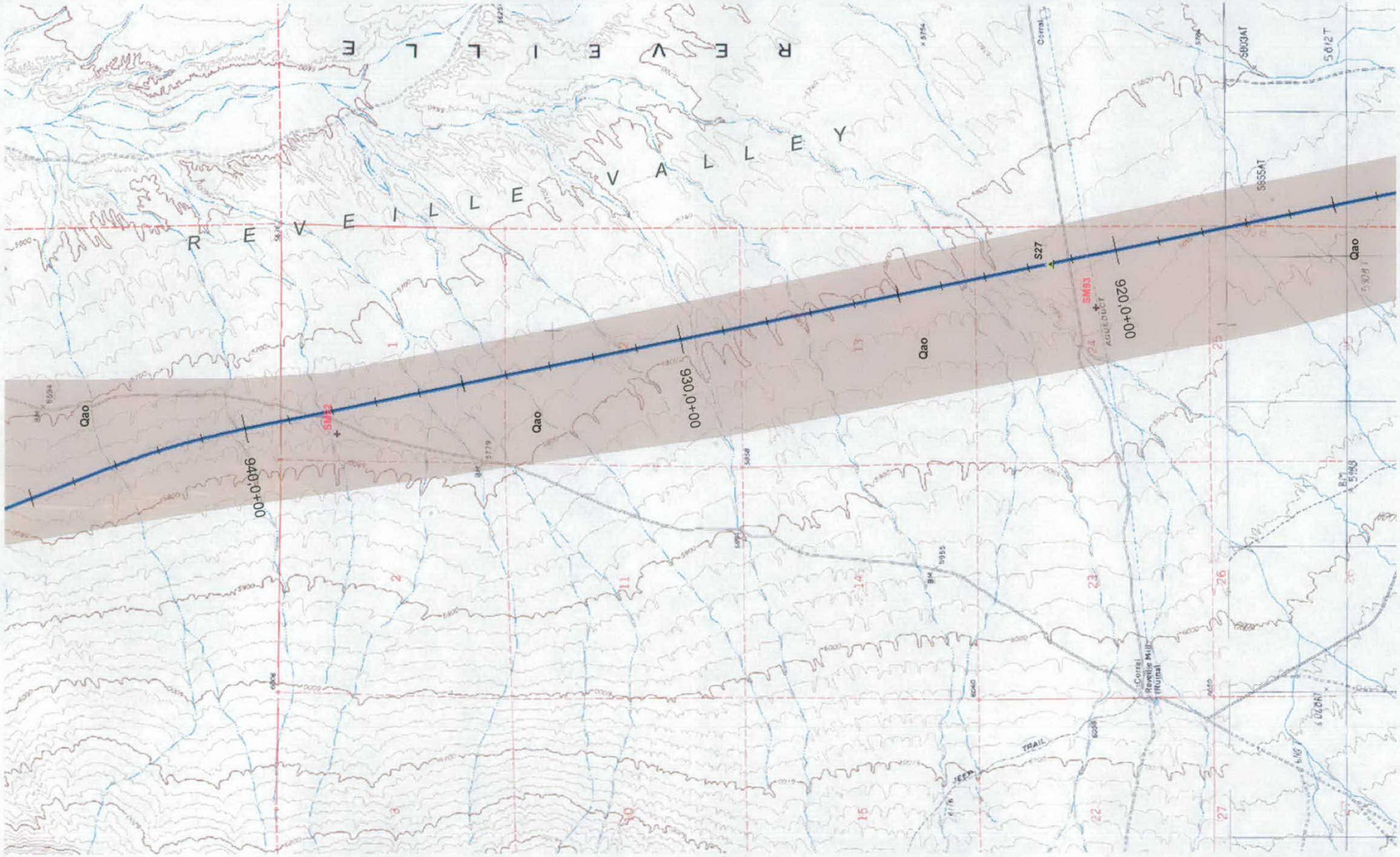

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FIGURE 3 (Sheet 34 of 71)

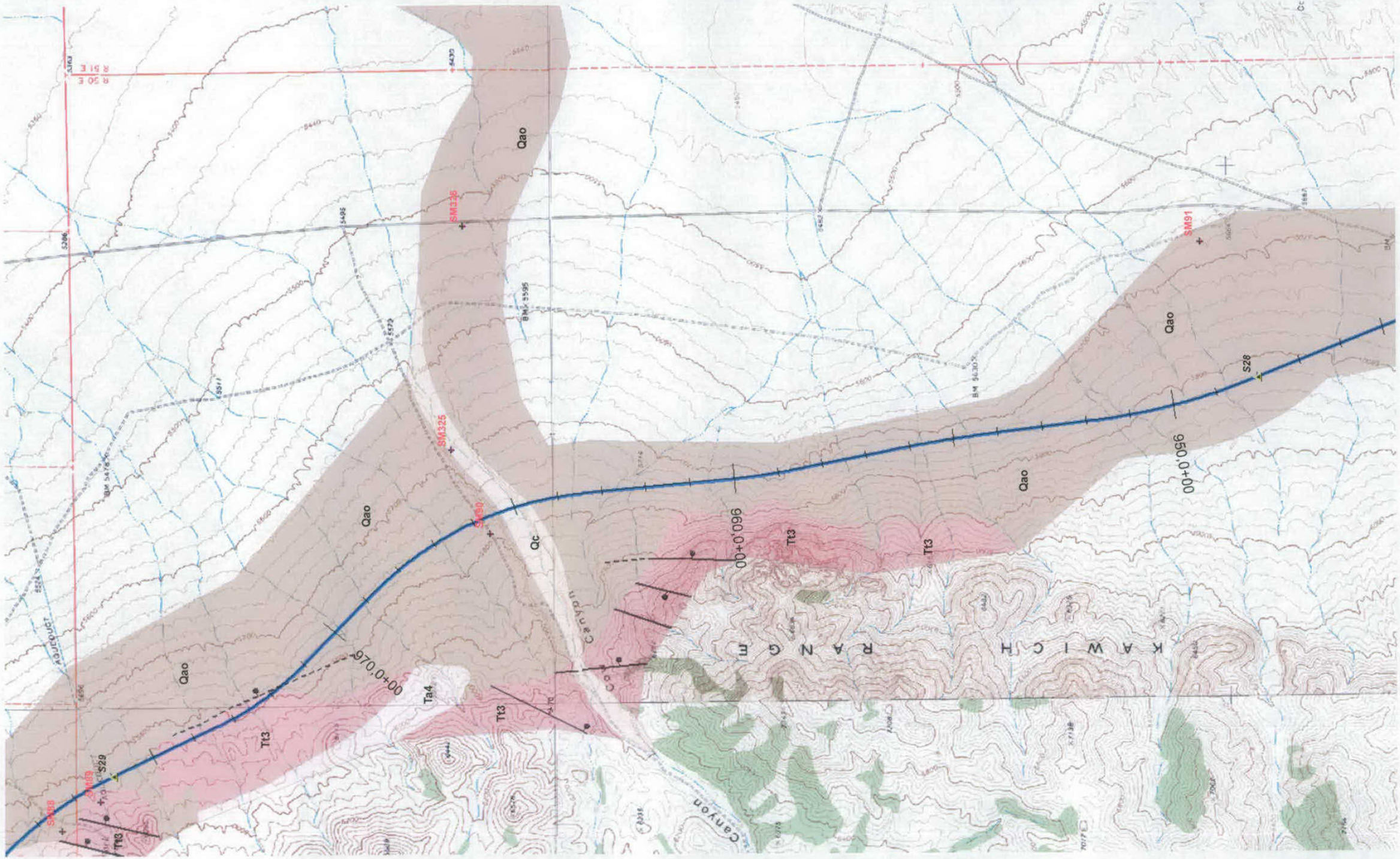

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FIGURE 3 (Sheet 35 of 71)

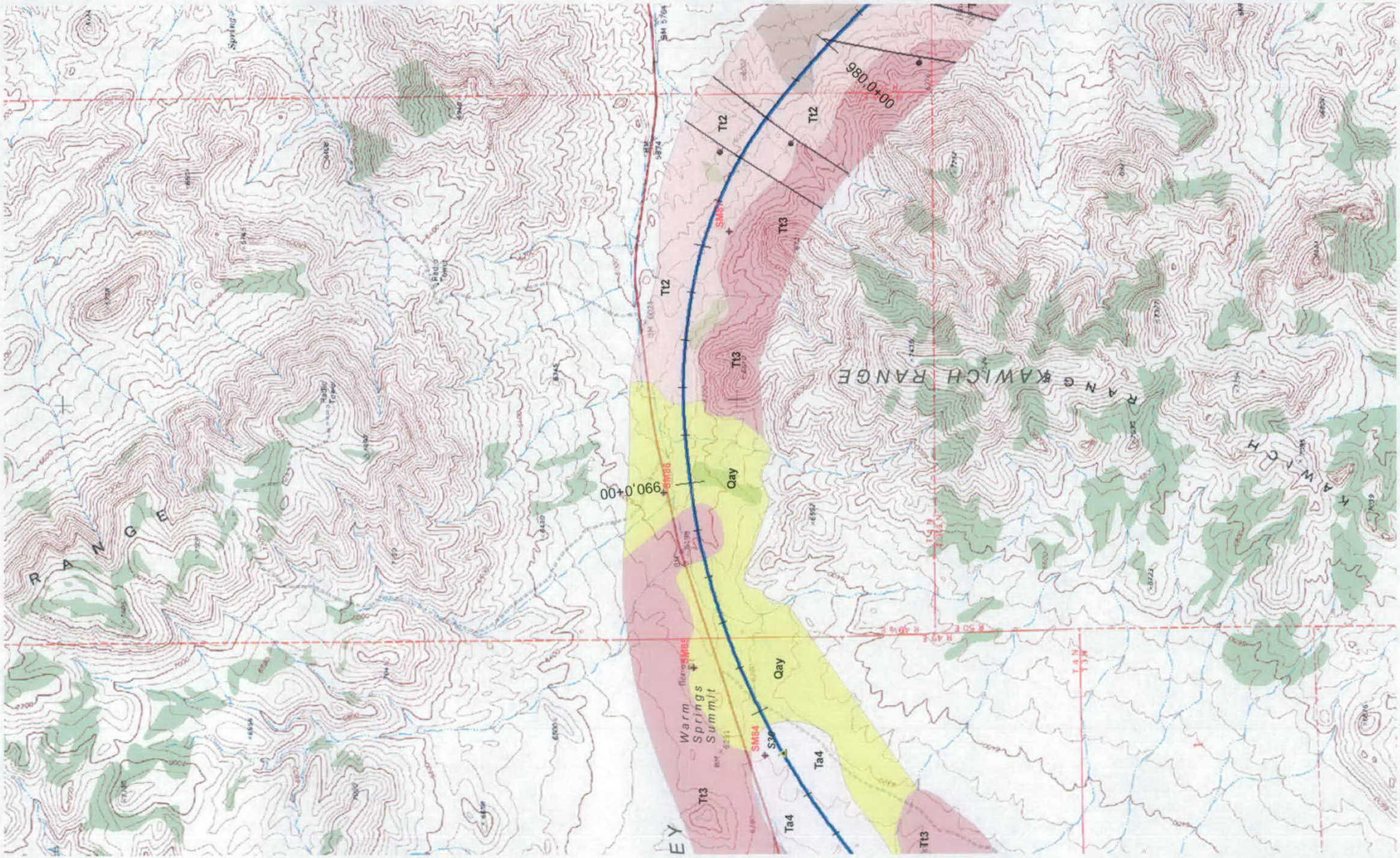

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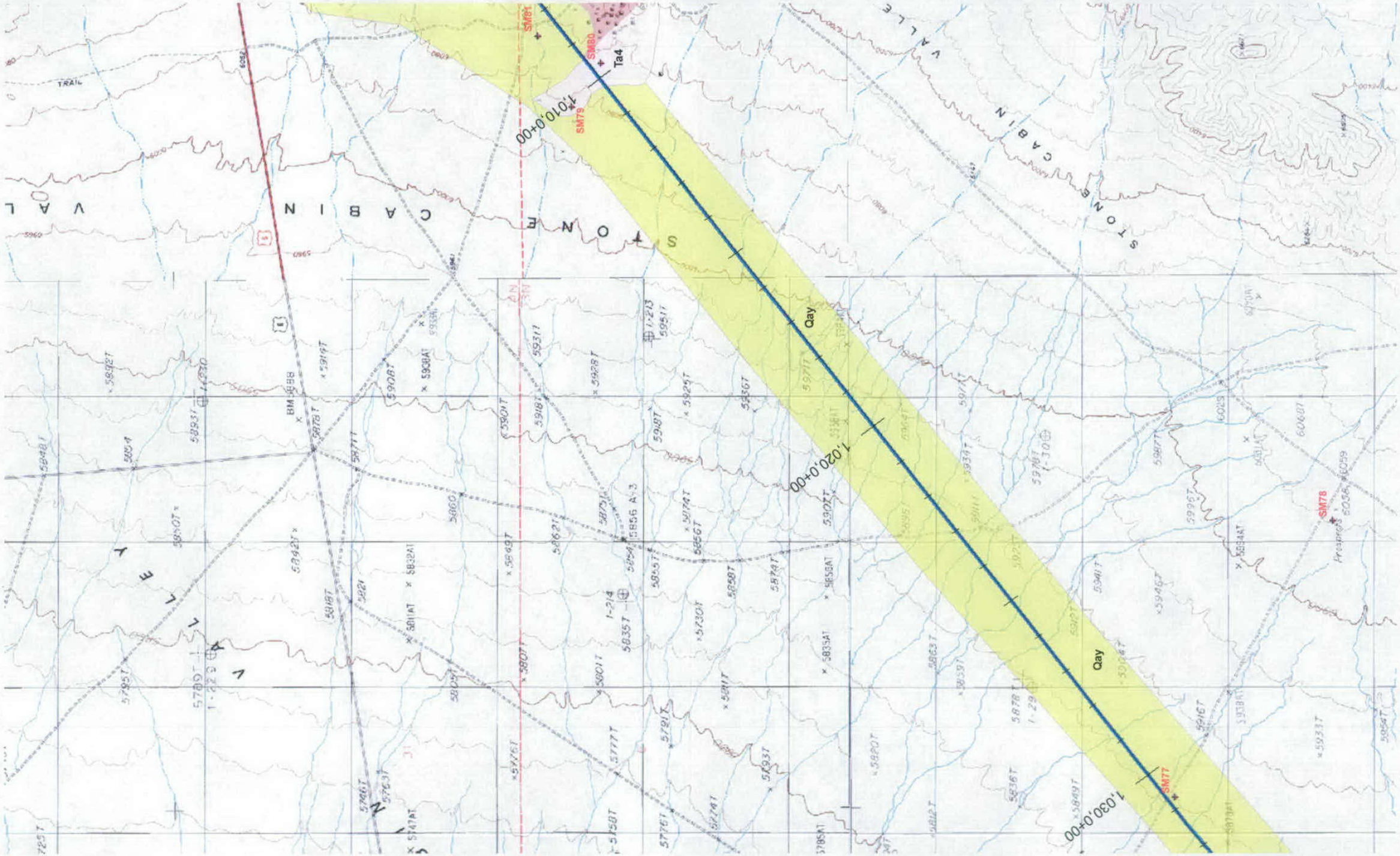
FIGURE 3 (Sheet 36 of 71)



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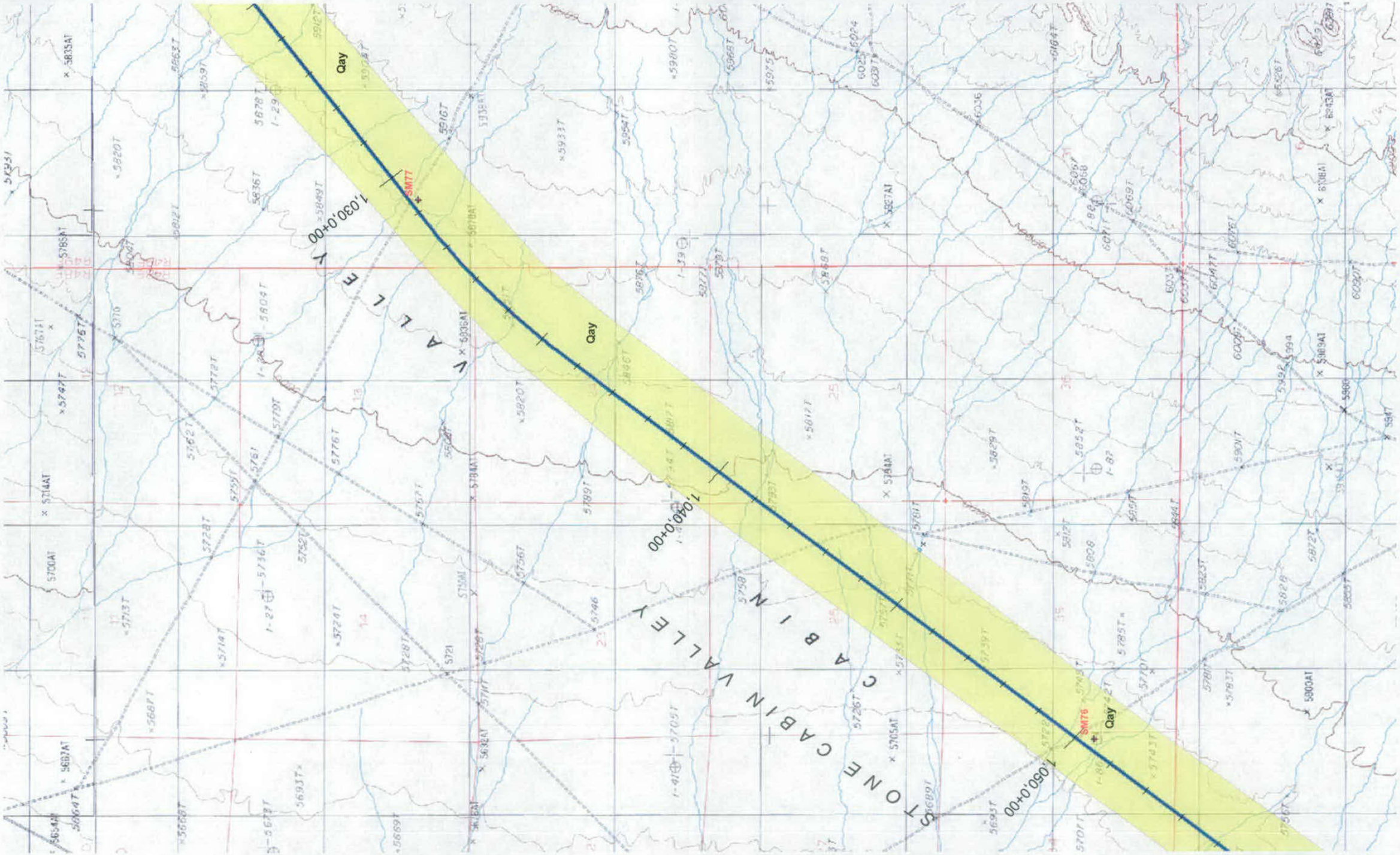
DETAIL MAPS
FIGURE 3 (Sheet 37 of 71)



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YUCCA MOUNTAIN PROJECT, NEVADA

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FIGURE 3 (Sheet 38 of 71)

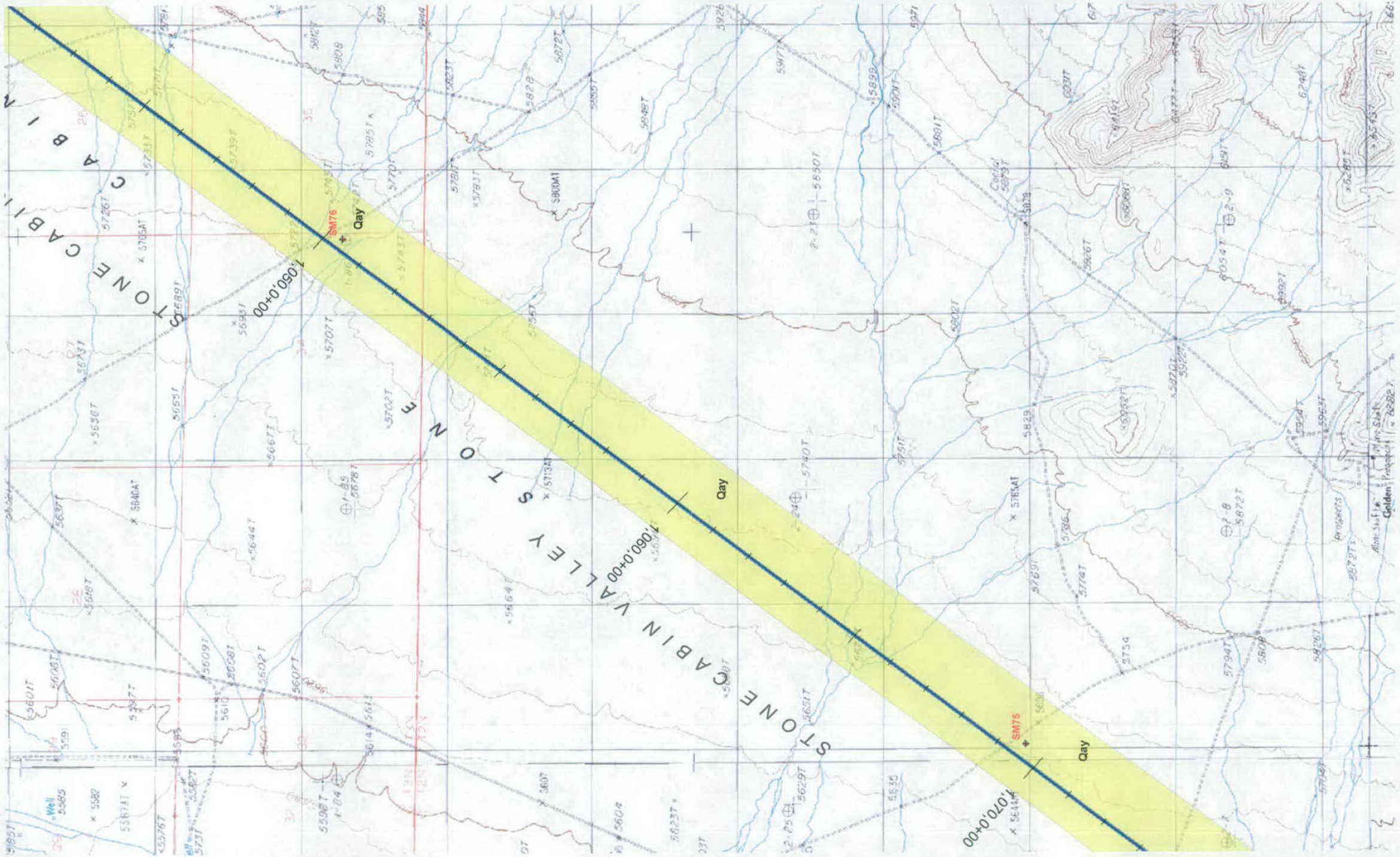

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FIGURE 3 (Sheet 39 of 71)

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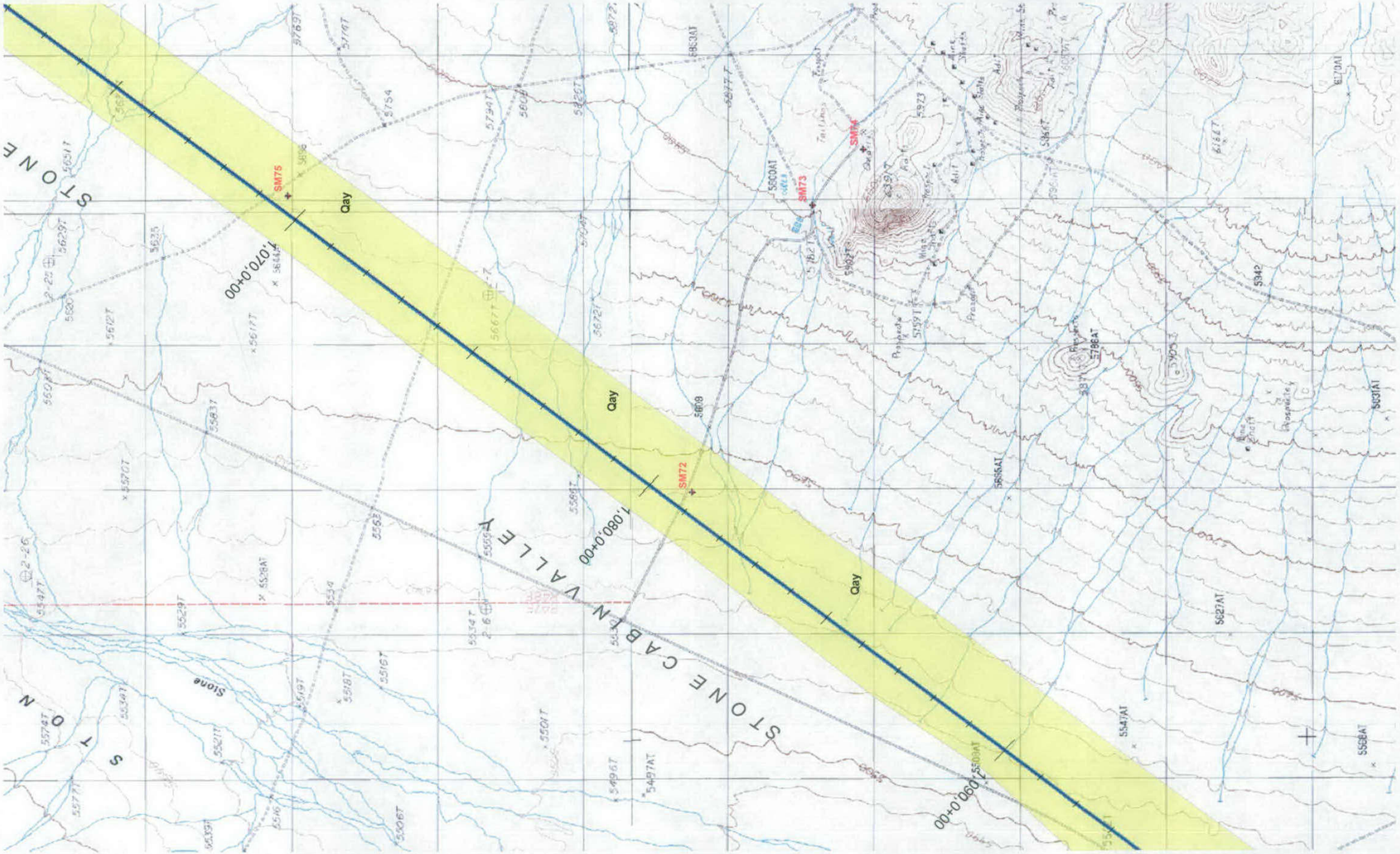

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FIGURE 3 (Sheet 40 of 71)

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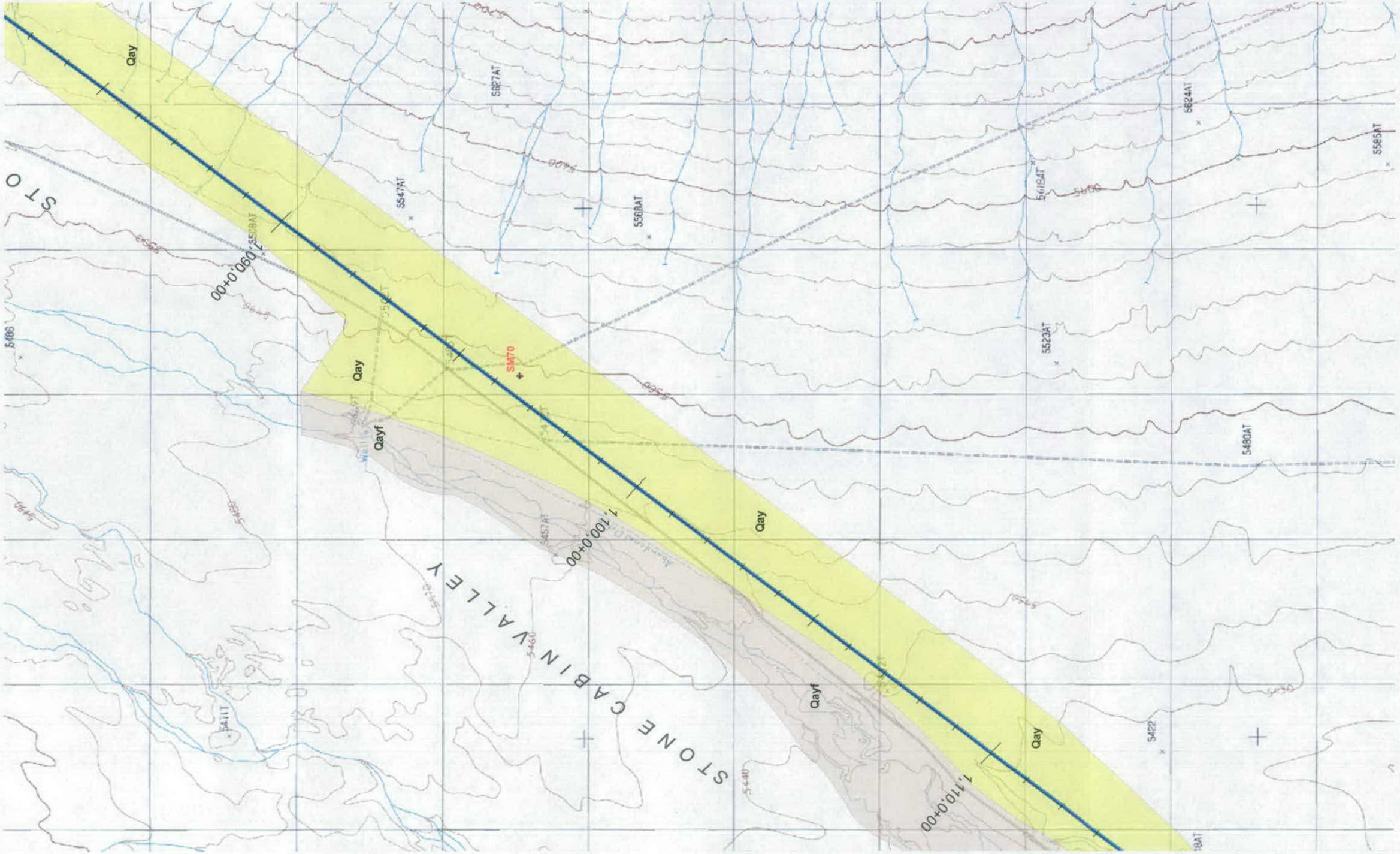

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YUCCA MOUNTAIN PROJECT, NEVADA

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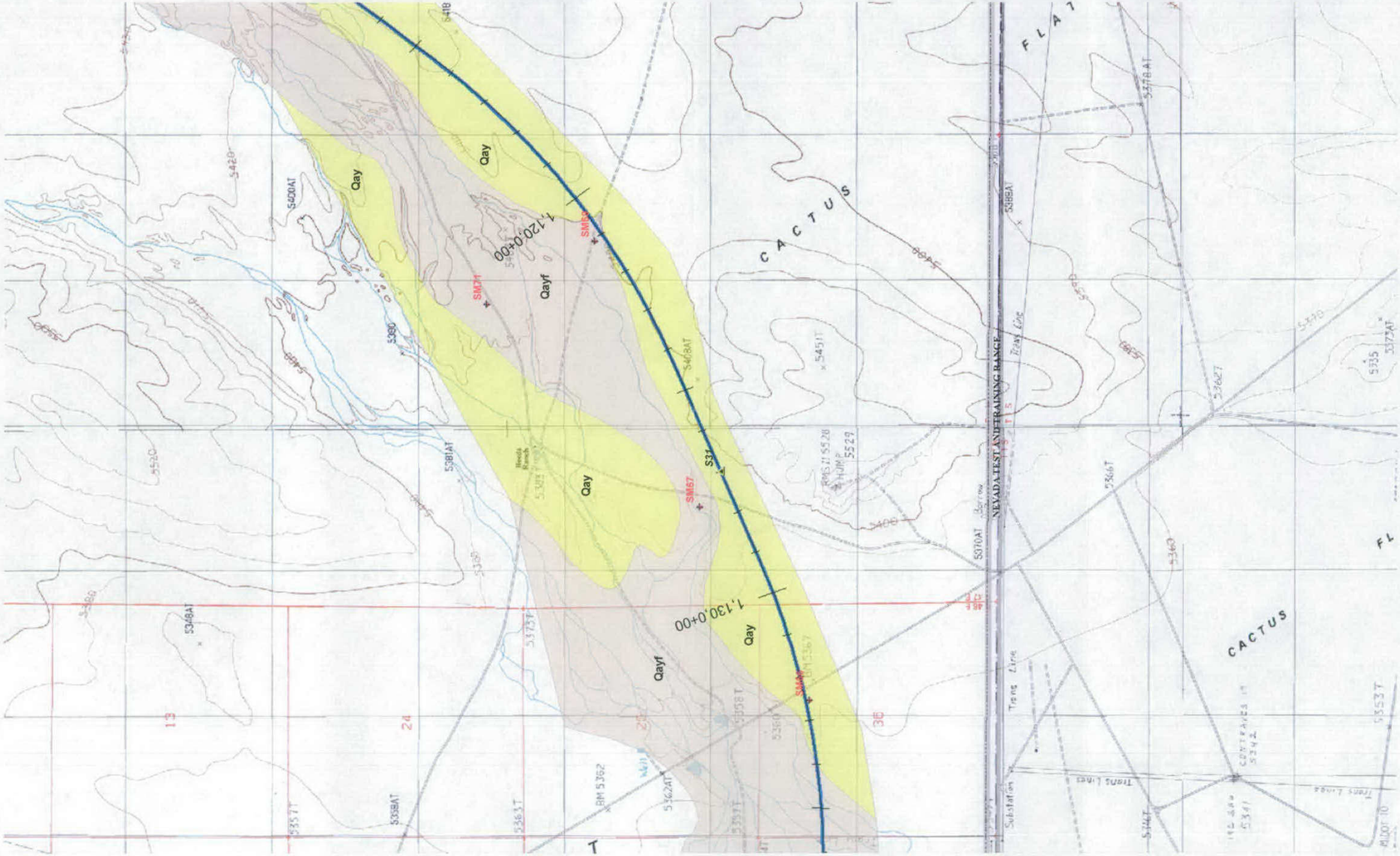
FIGURE 3 (Sheet 41 of 71)



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YUCCA MOUNTAIN PROJECT, NEVADA

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FIGURE 3 (Sheet 42 of 71)

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CALIENTE RAIL CORRIDOR
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FIGURE 3 (Sheet 43 of 71)

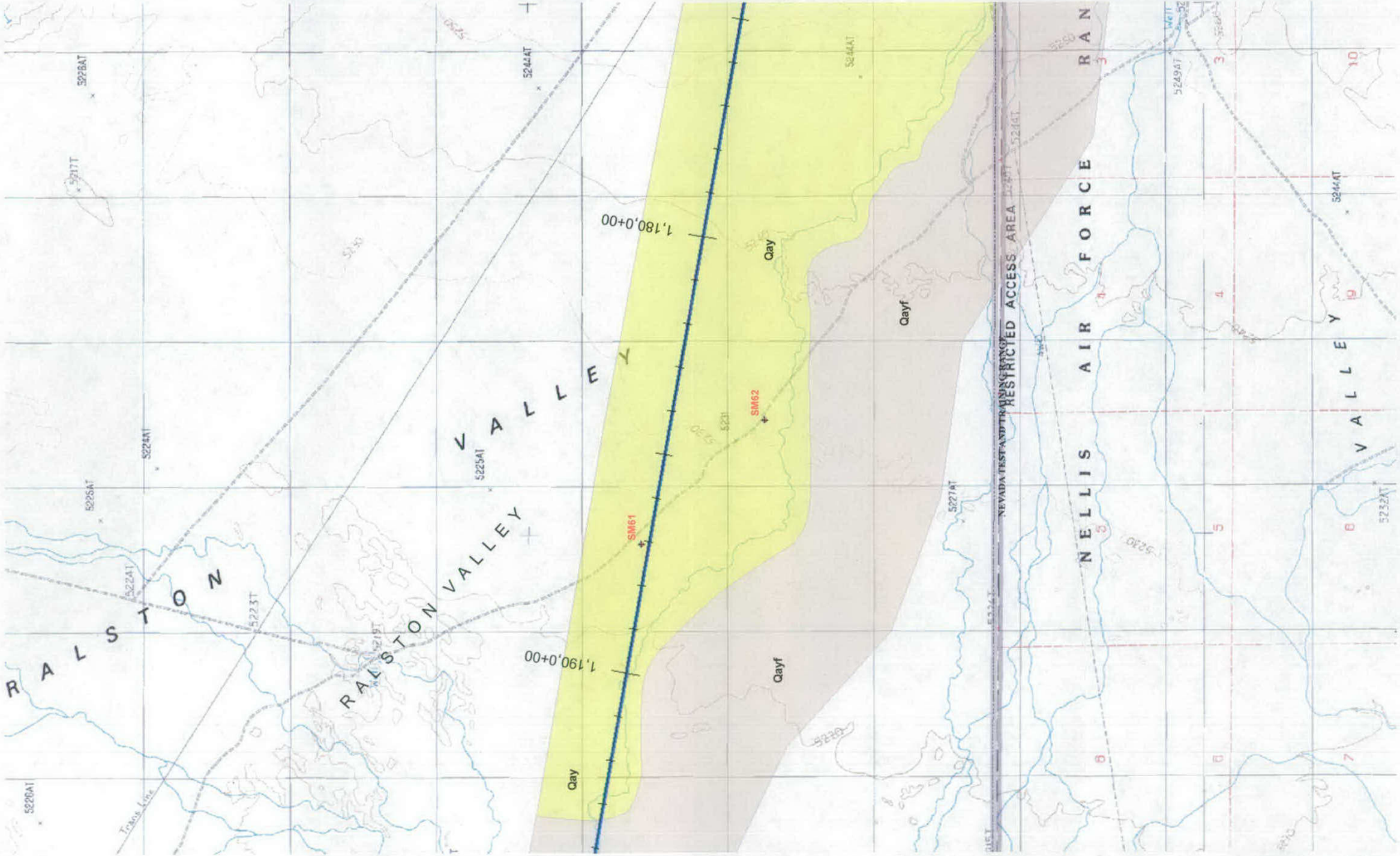

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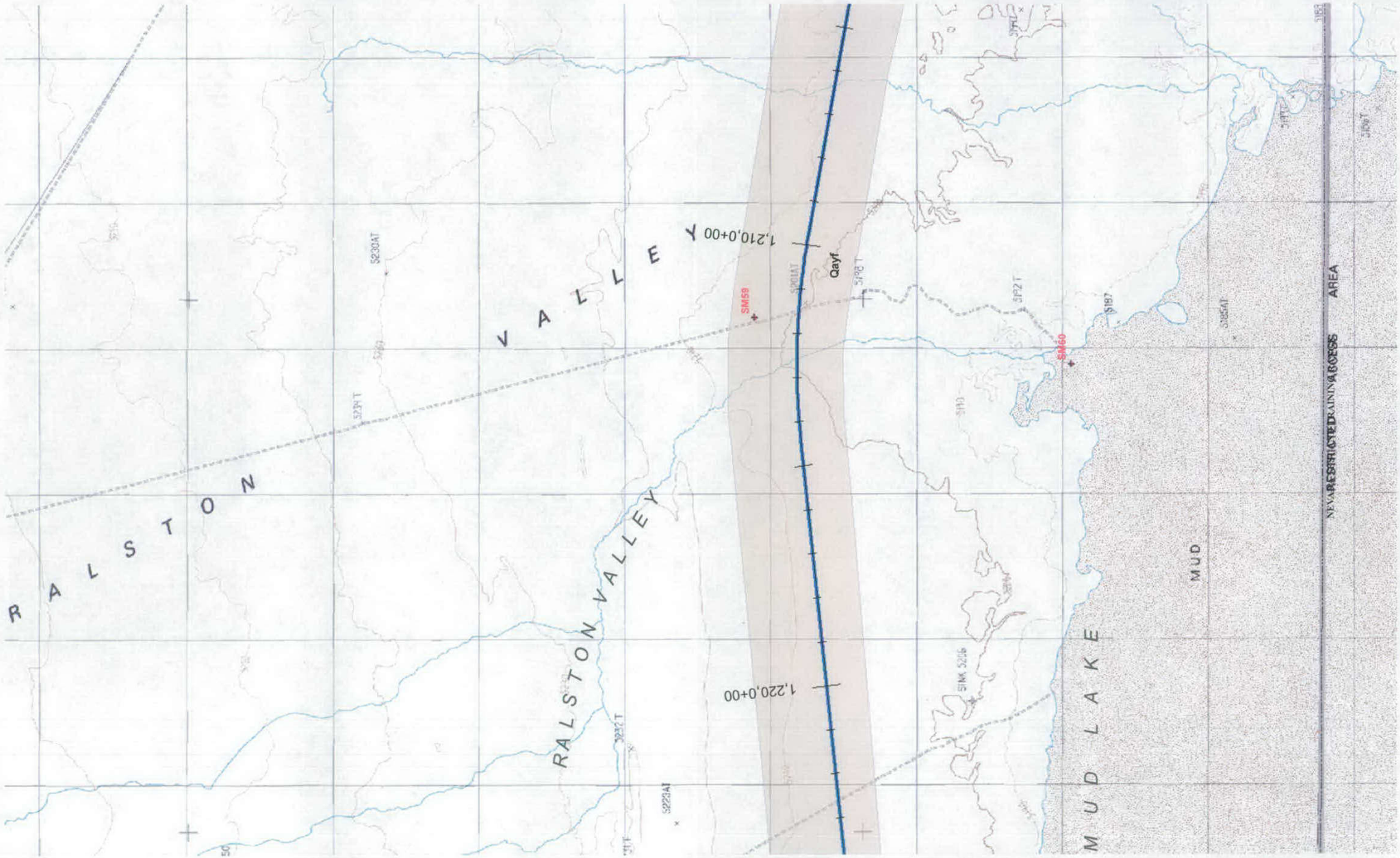
FIGURE 3 (Sheet 44 of 71)



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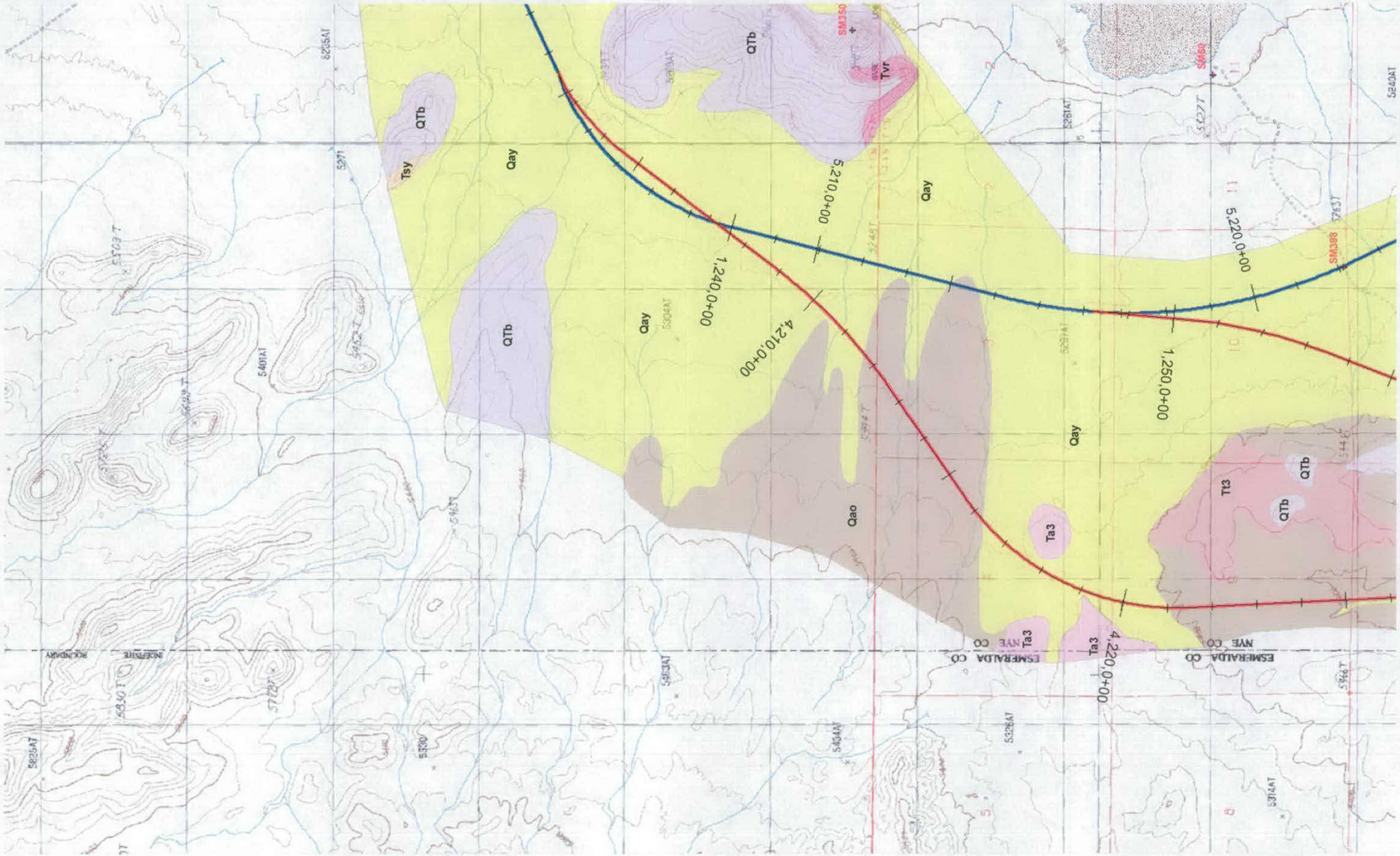
DETAIL MAPS
FIGURE 3 (Sheet 45 of 71)



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CALIENTE RAIL CORRIDOR
YUCCA MOUNTAIN PROJECT, NEVADA

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FIGURE 3 (Sheet 46 of 71)

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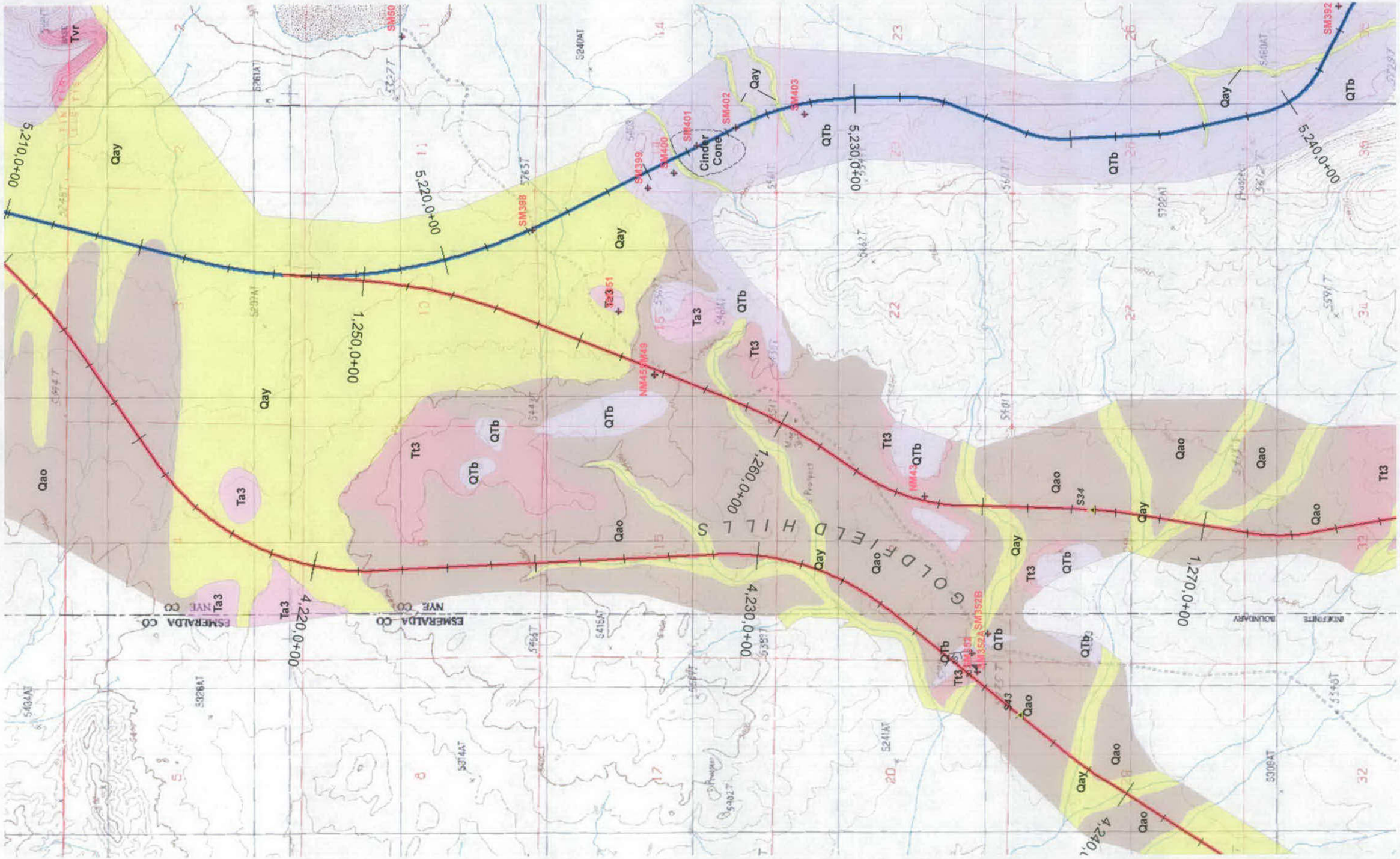

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FIGURE 3 (Sheet 47 of 71)

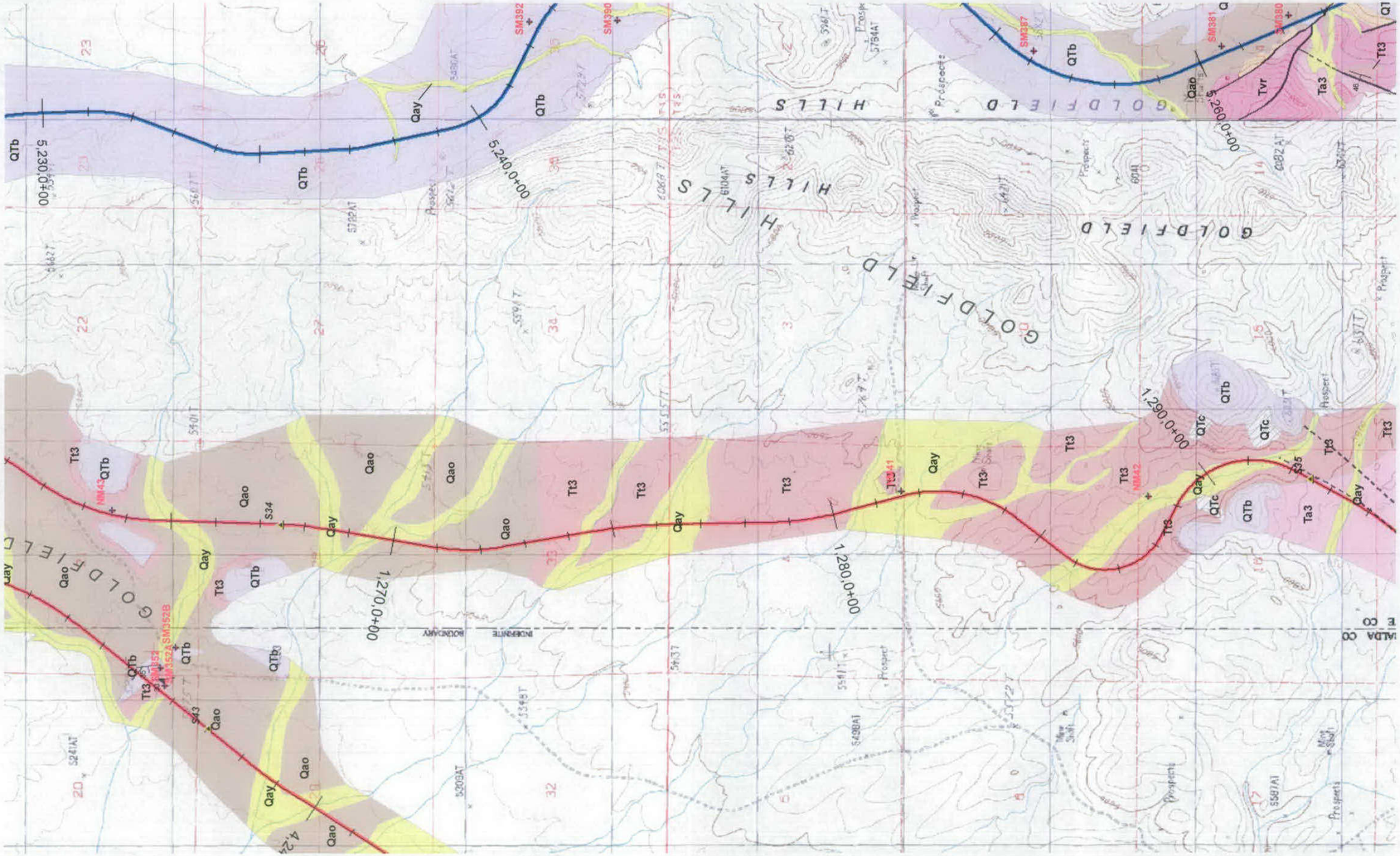

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FIGURE 3 (Sheet 48 of 71)

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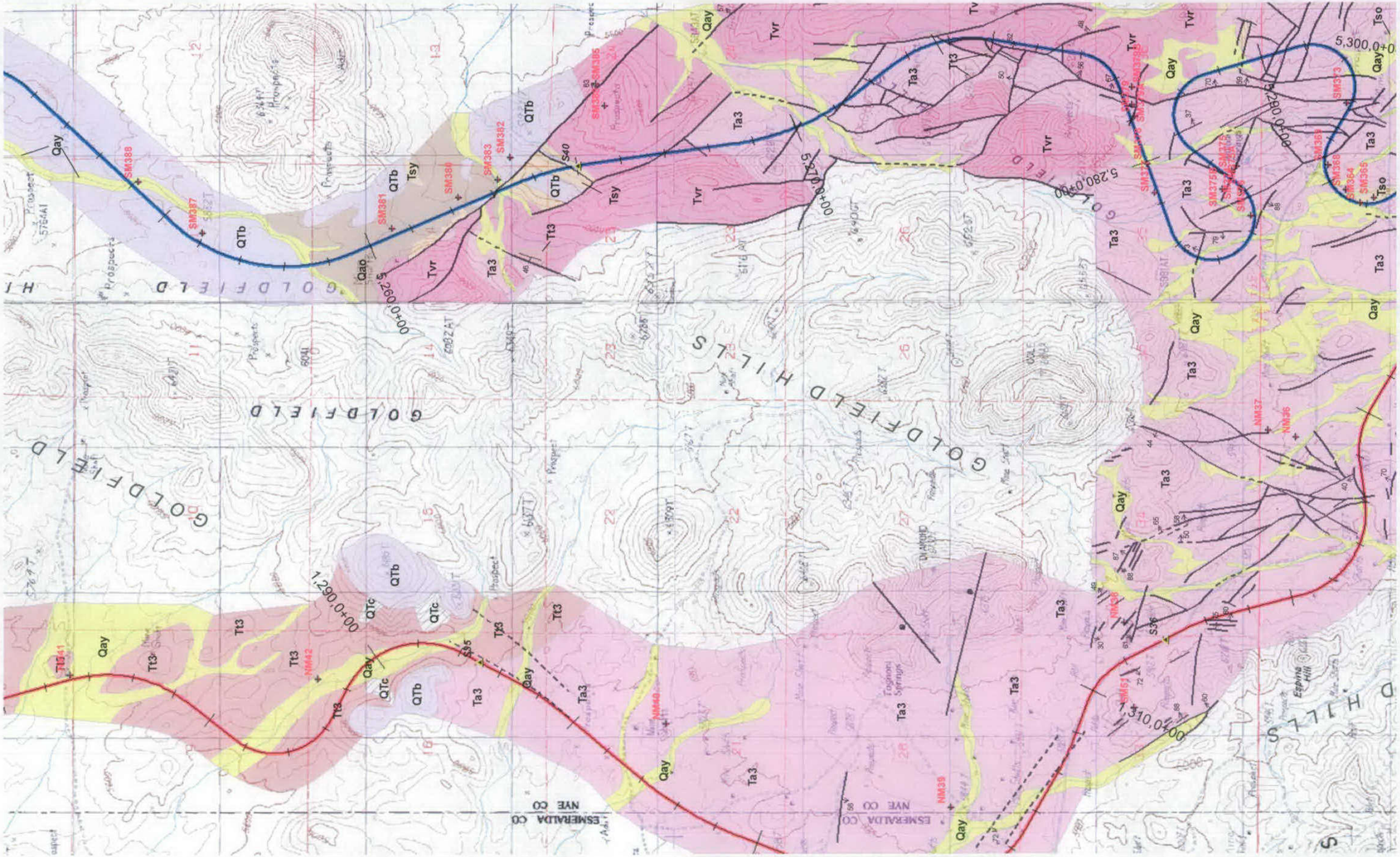

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FIGURE 3 (Sheet 49 of 71)

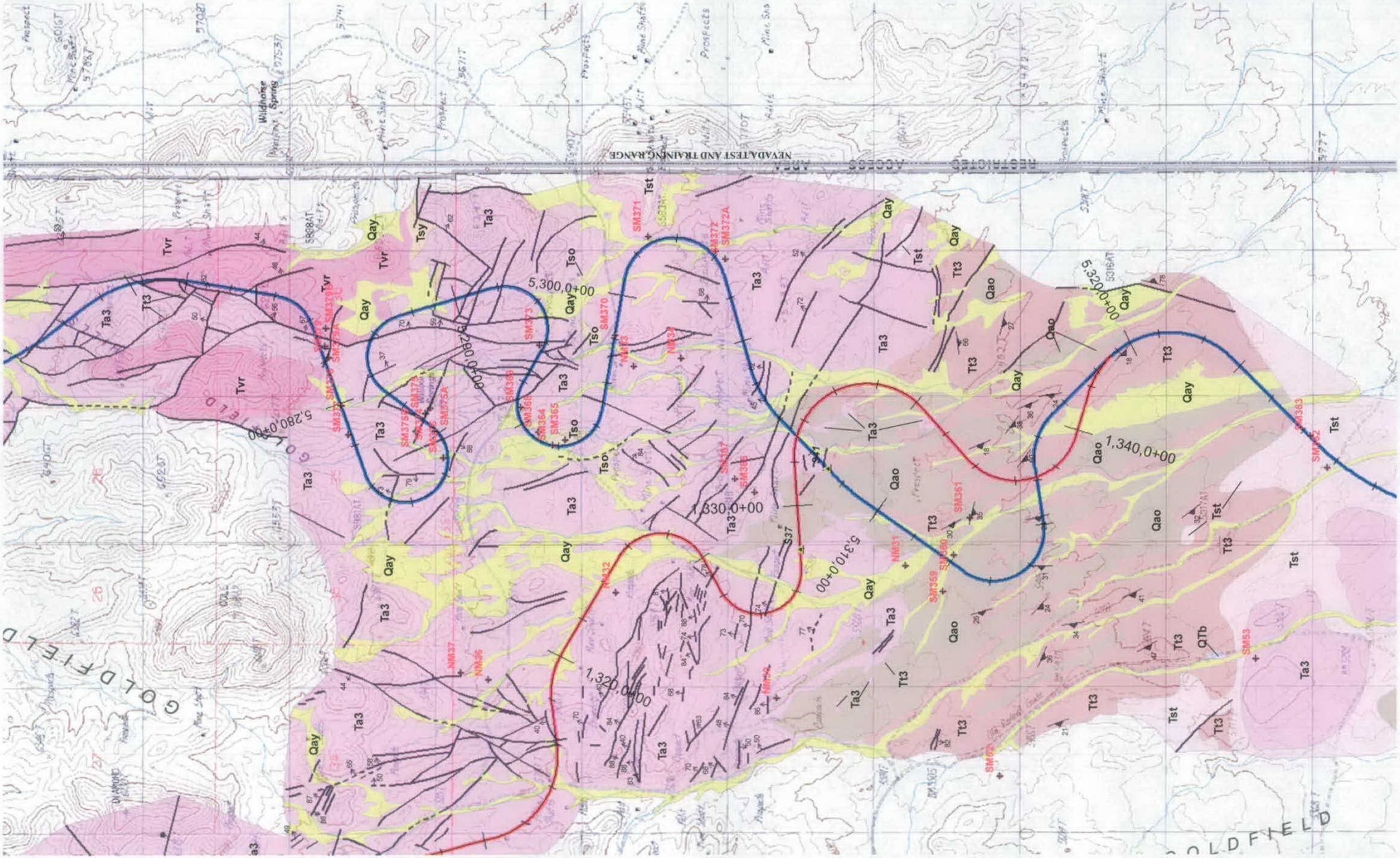

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FIGURE 3 (Sheet 50 of 71)

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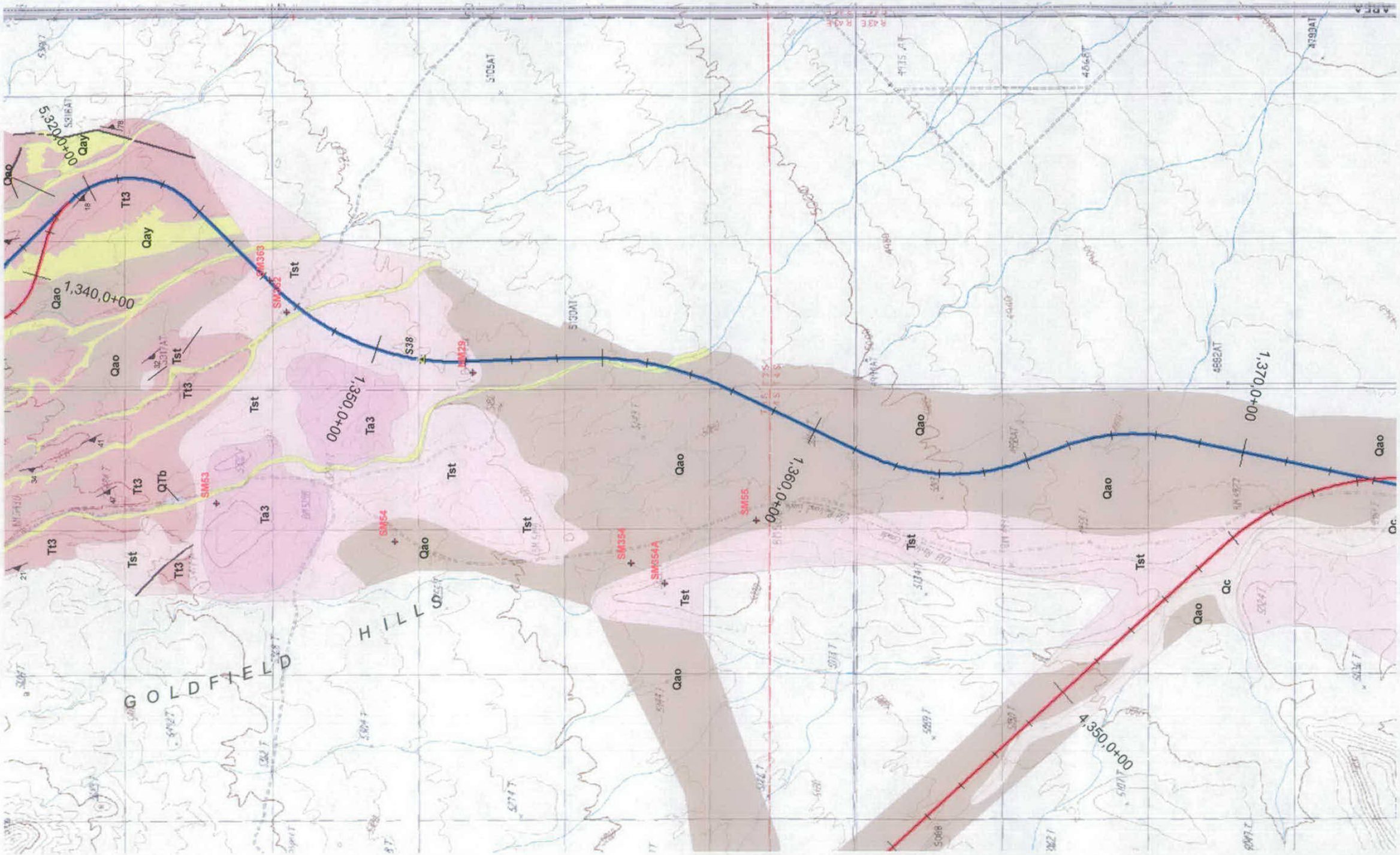

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FIGURE 3 (Sheet 51 of 71)

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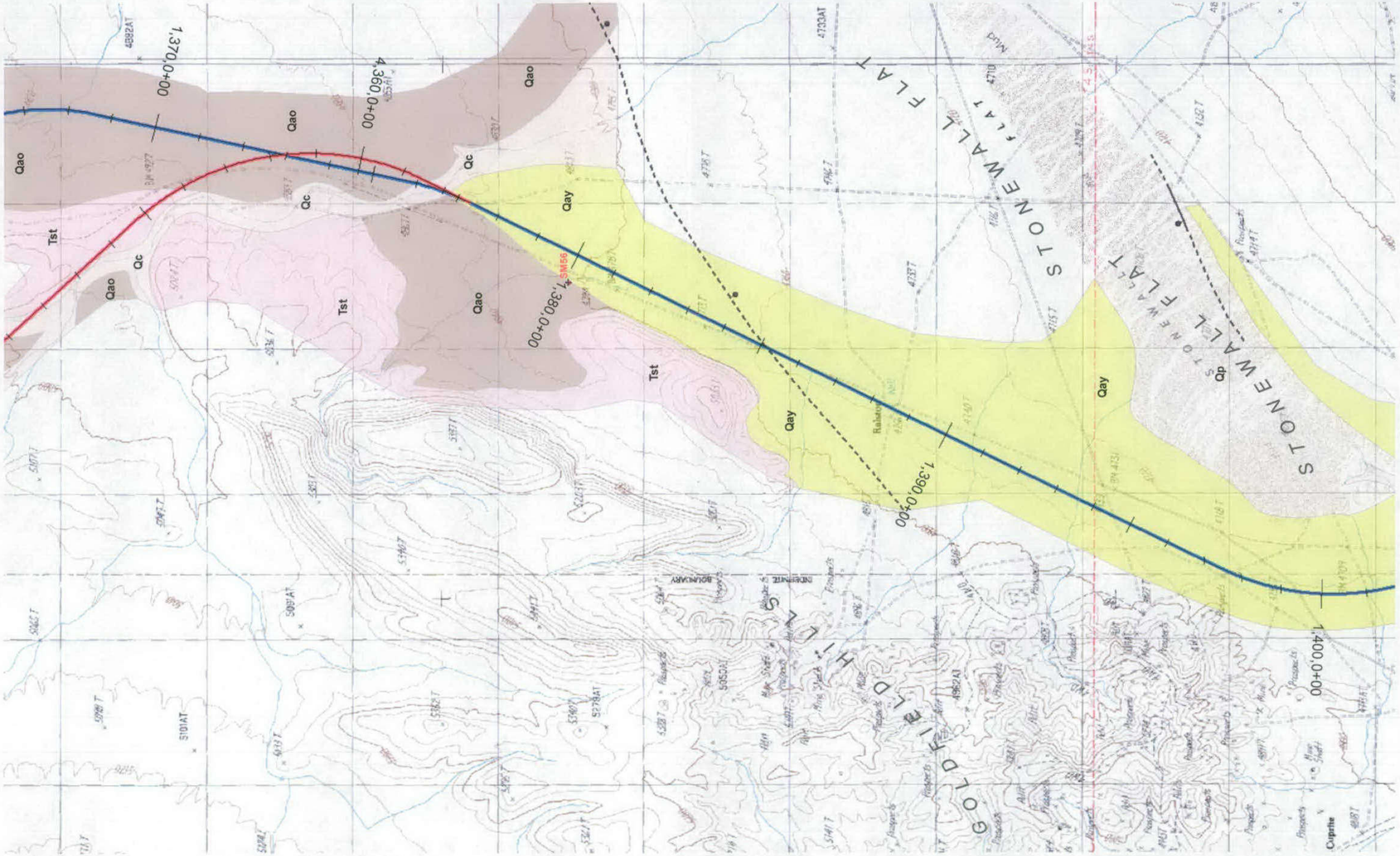

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FIGURE 3 (Sheet 52 of 71)

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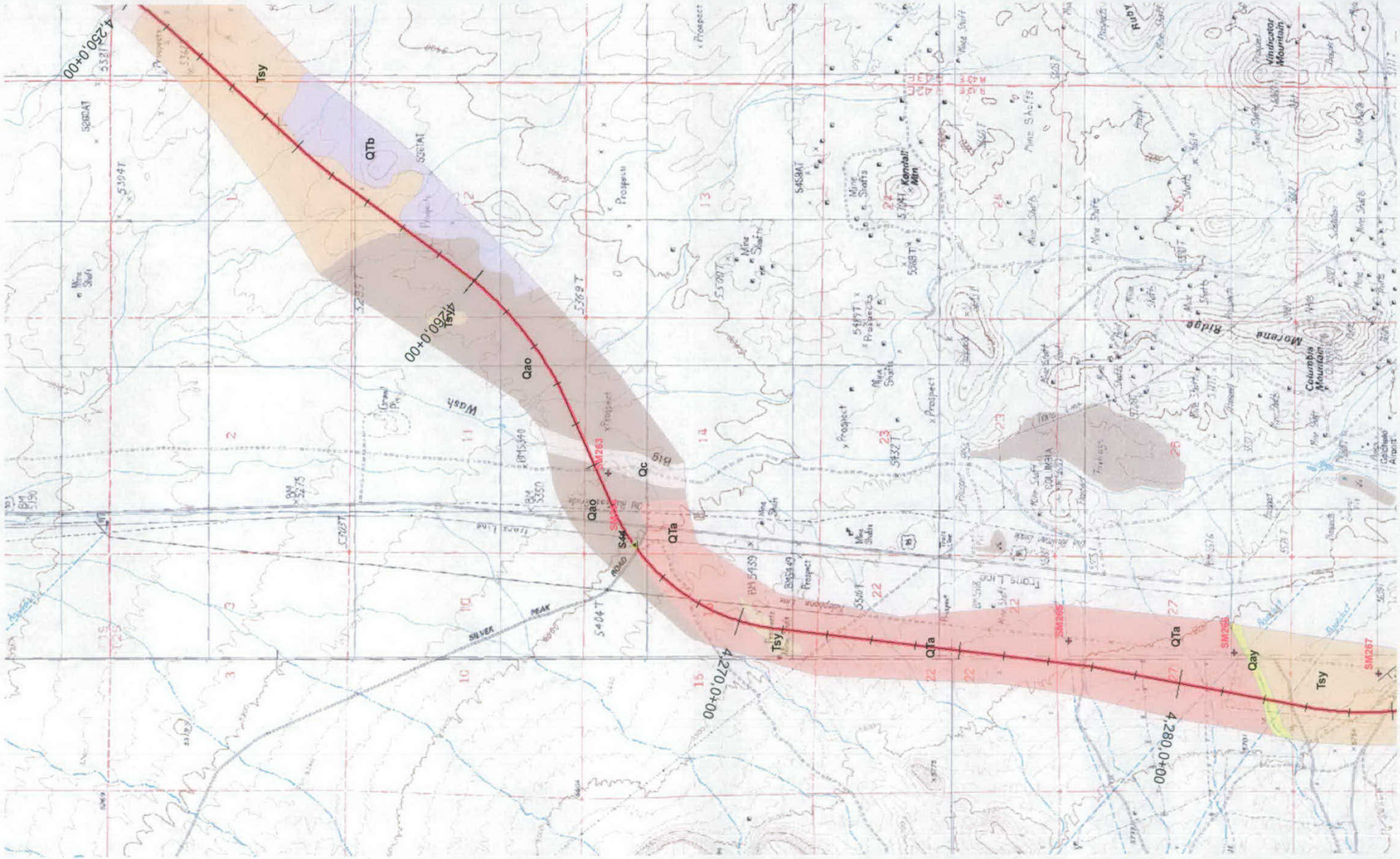

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FIGURE 3 (Sheet 53 of 71)

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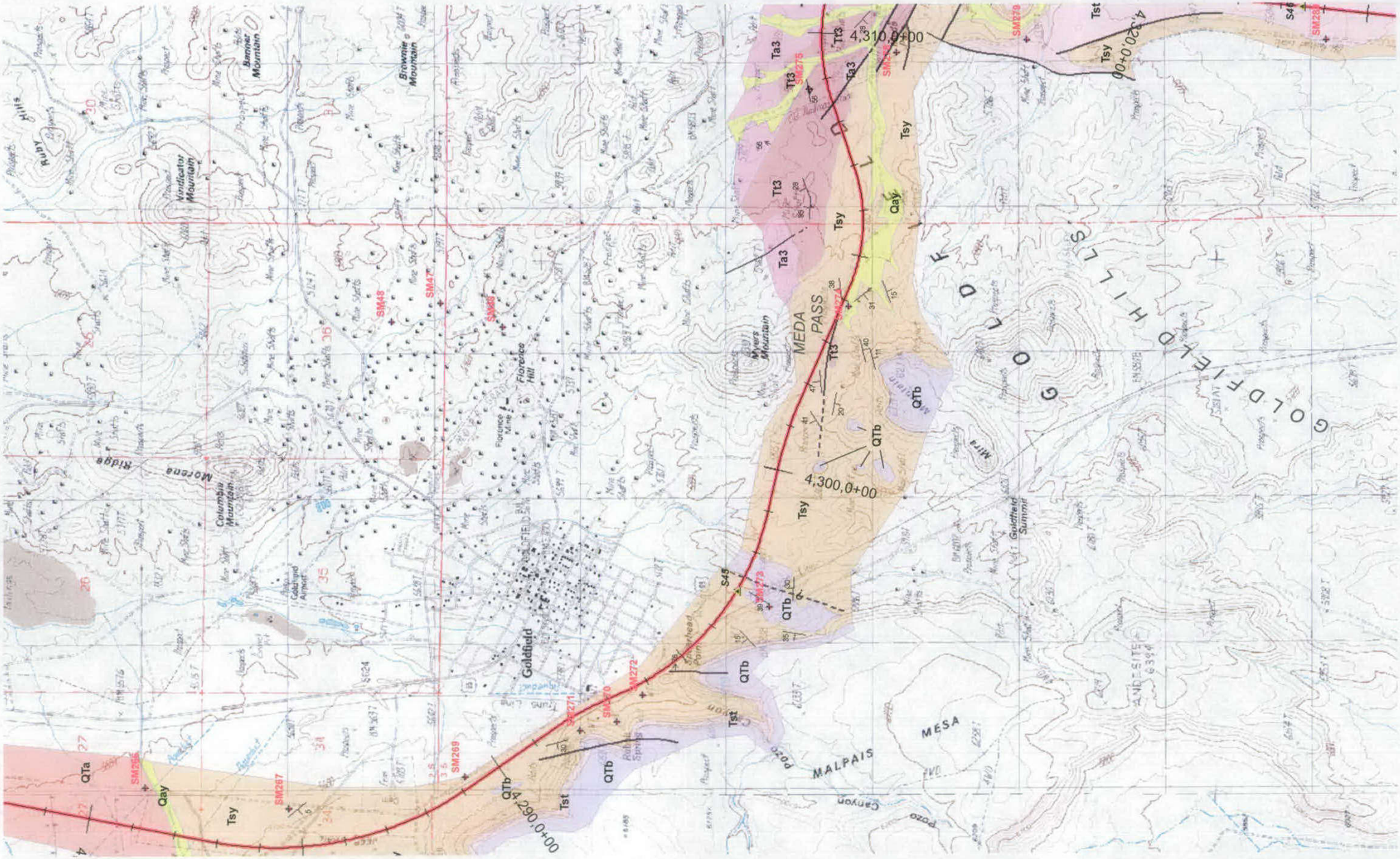

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FIGURE 3 (Sheet 54 of 71)

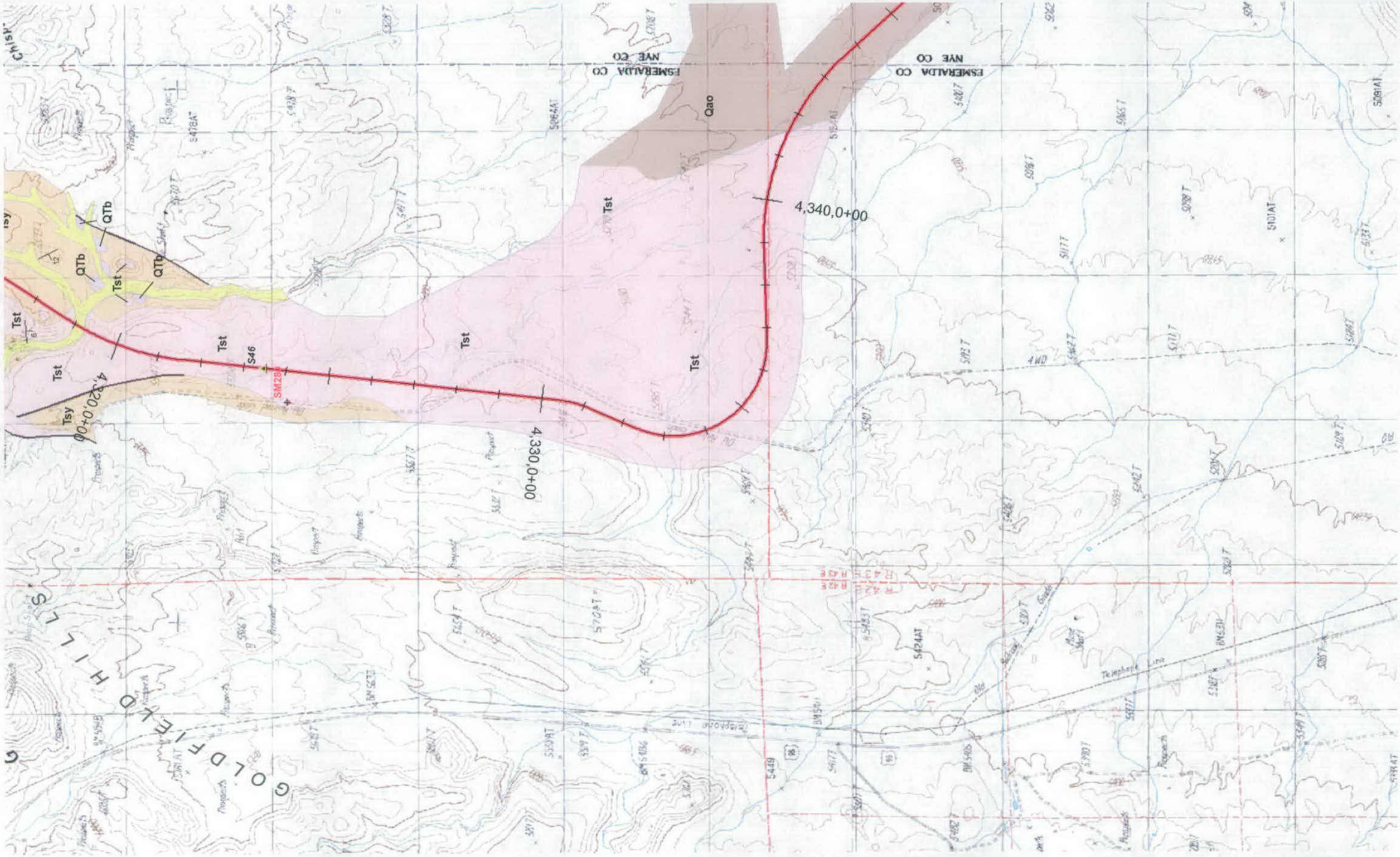

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FIGURE 3 (Sheet 55 of 71)

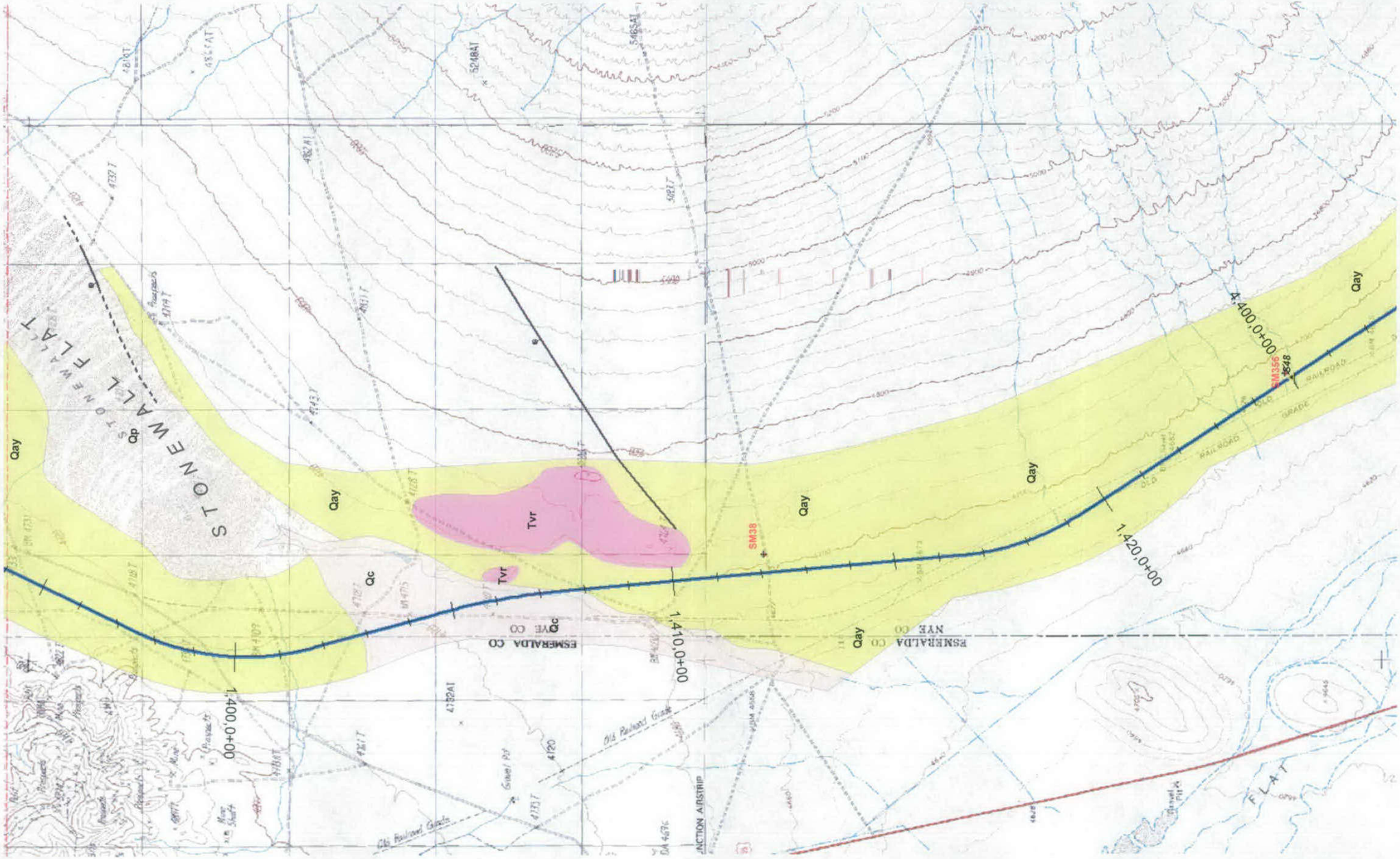

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FIGURE 3 (Sheet 56 of 71)

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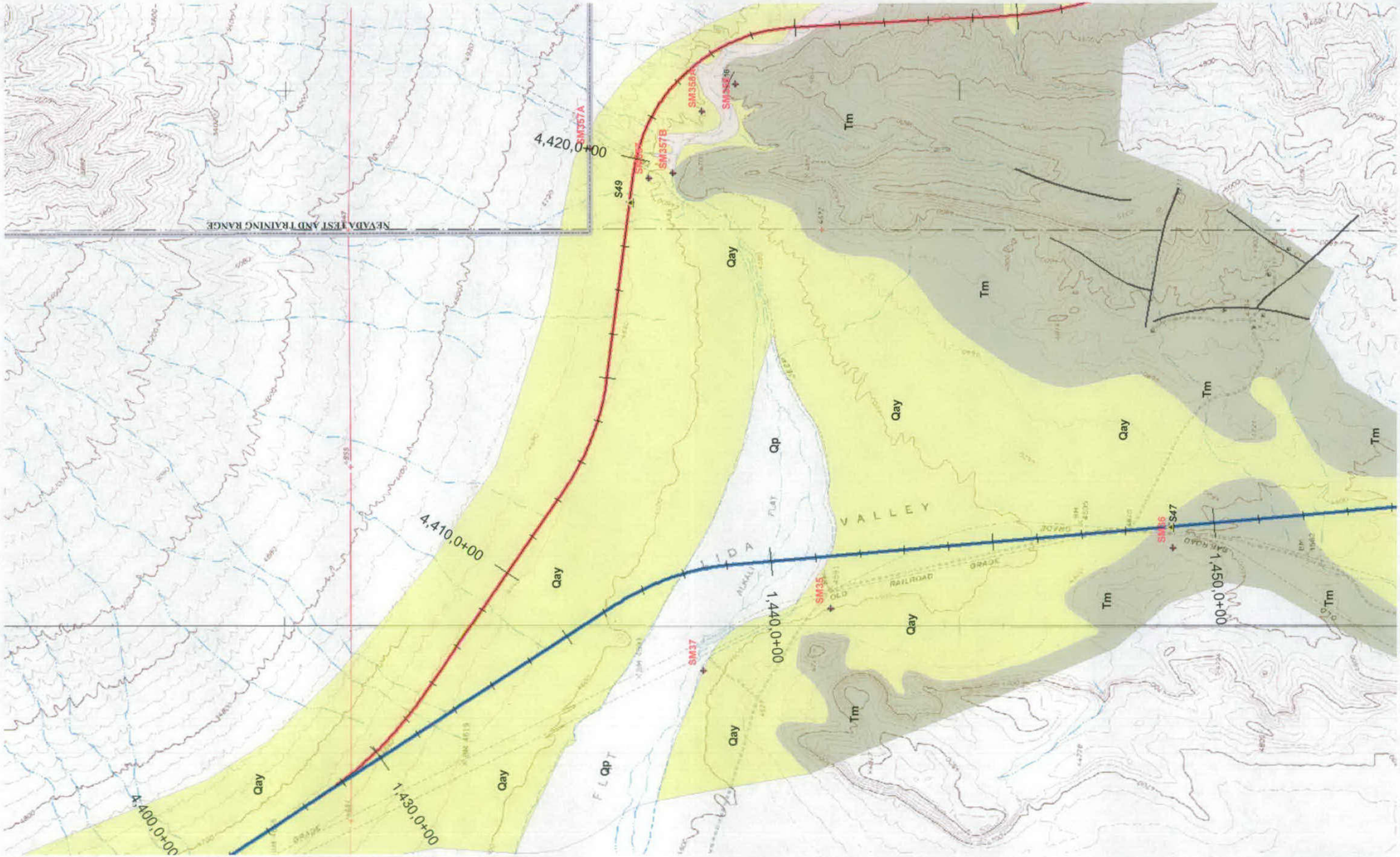

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FIGURE 3 (Sheet 57 of 71)

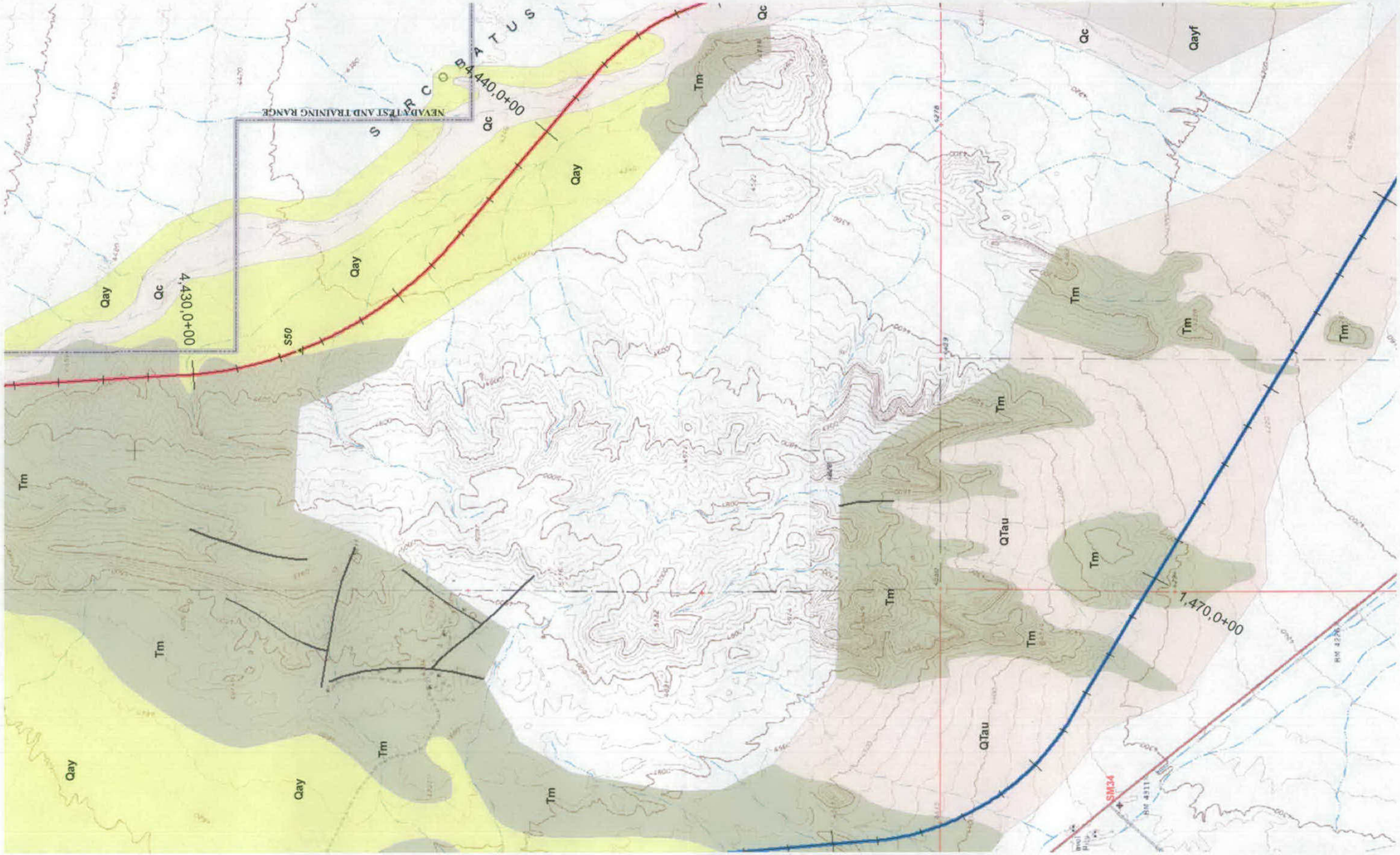

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FIGURE 3 (Sheet 58 of 71)

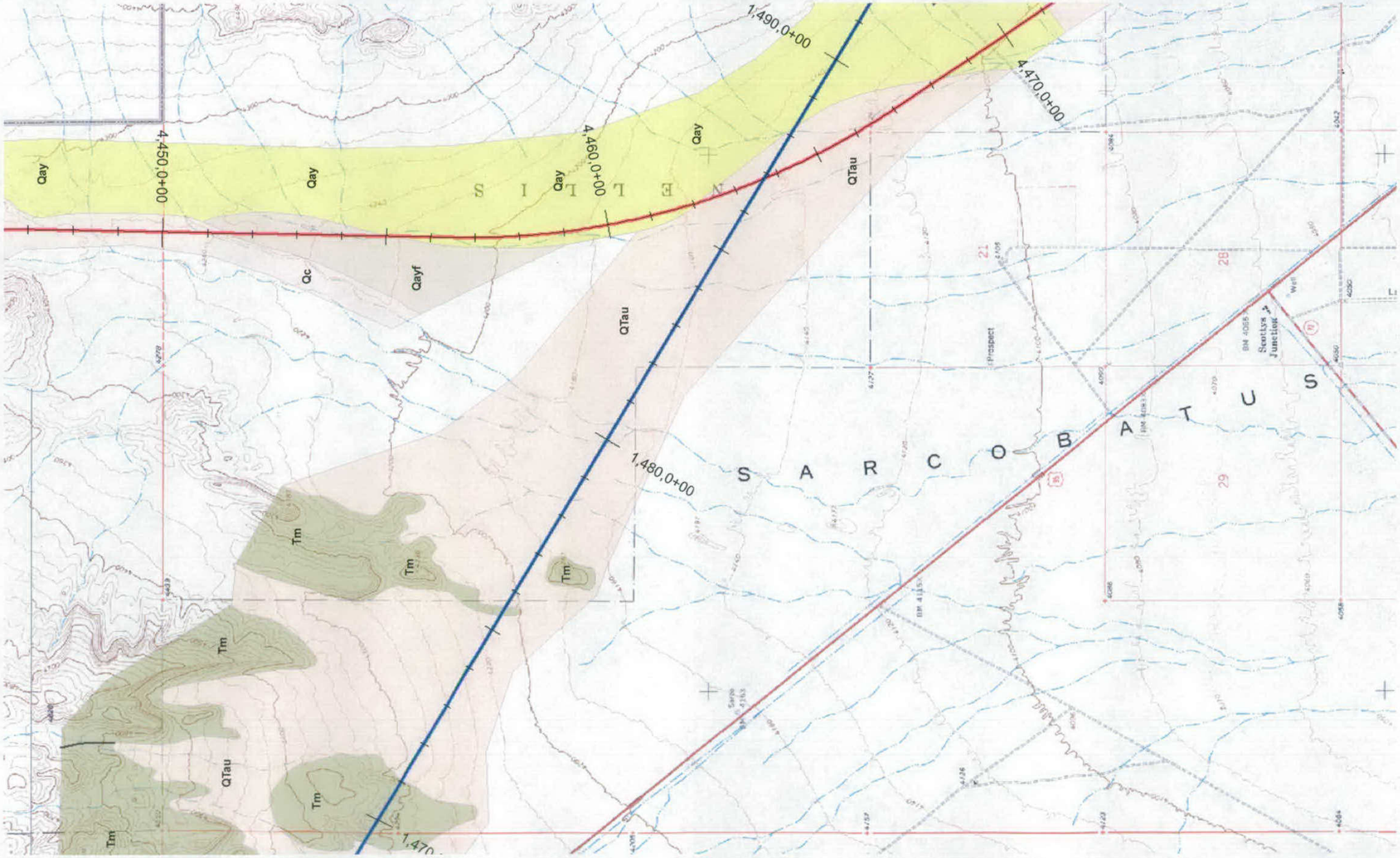

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FIGURE 3 (Sheet 59 of 71)

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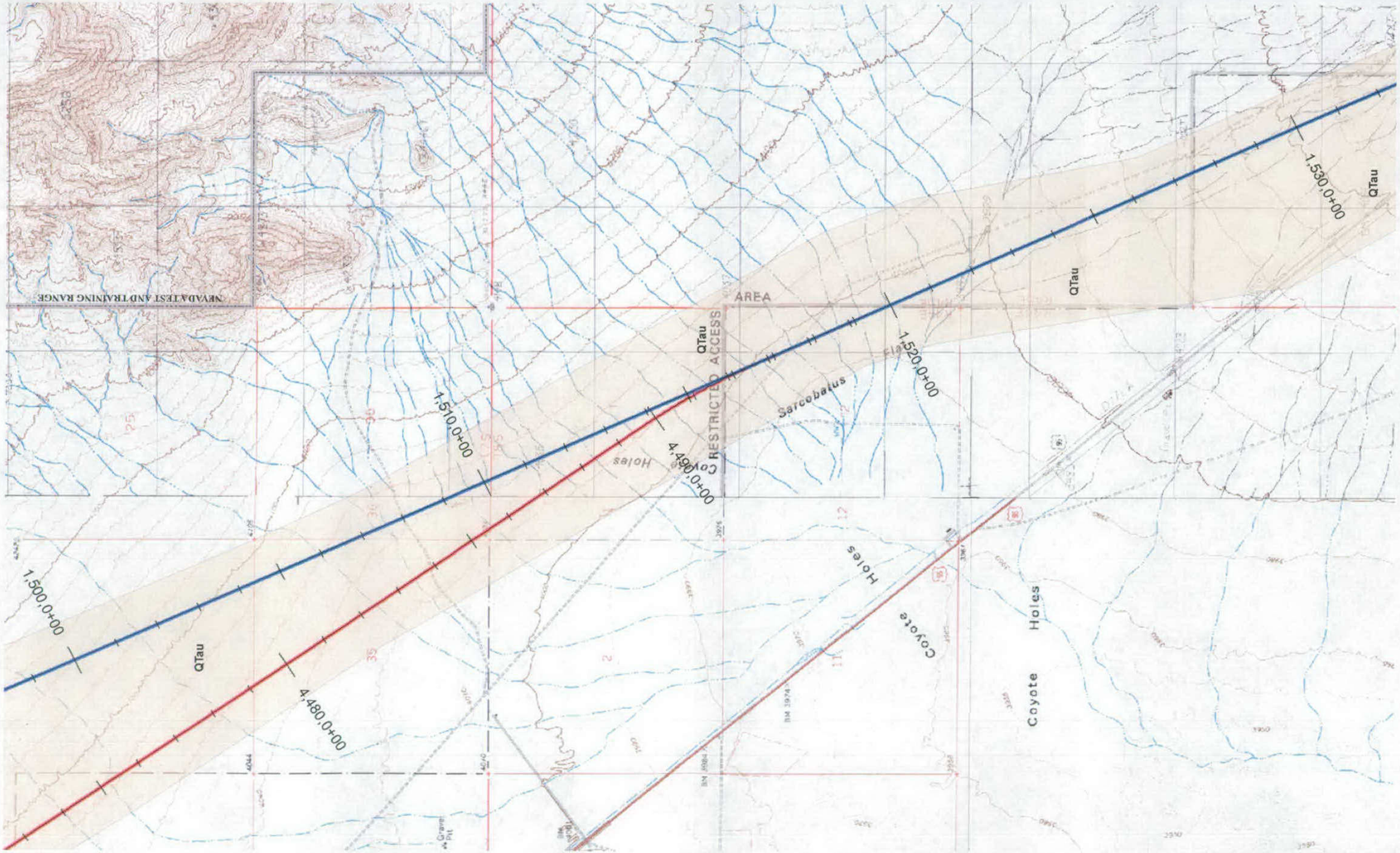

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FIGURE 3 (Sheet 60 of 71)

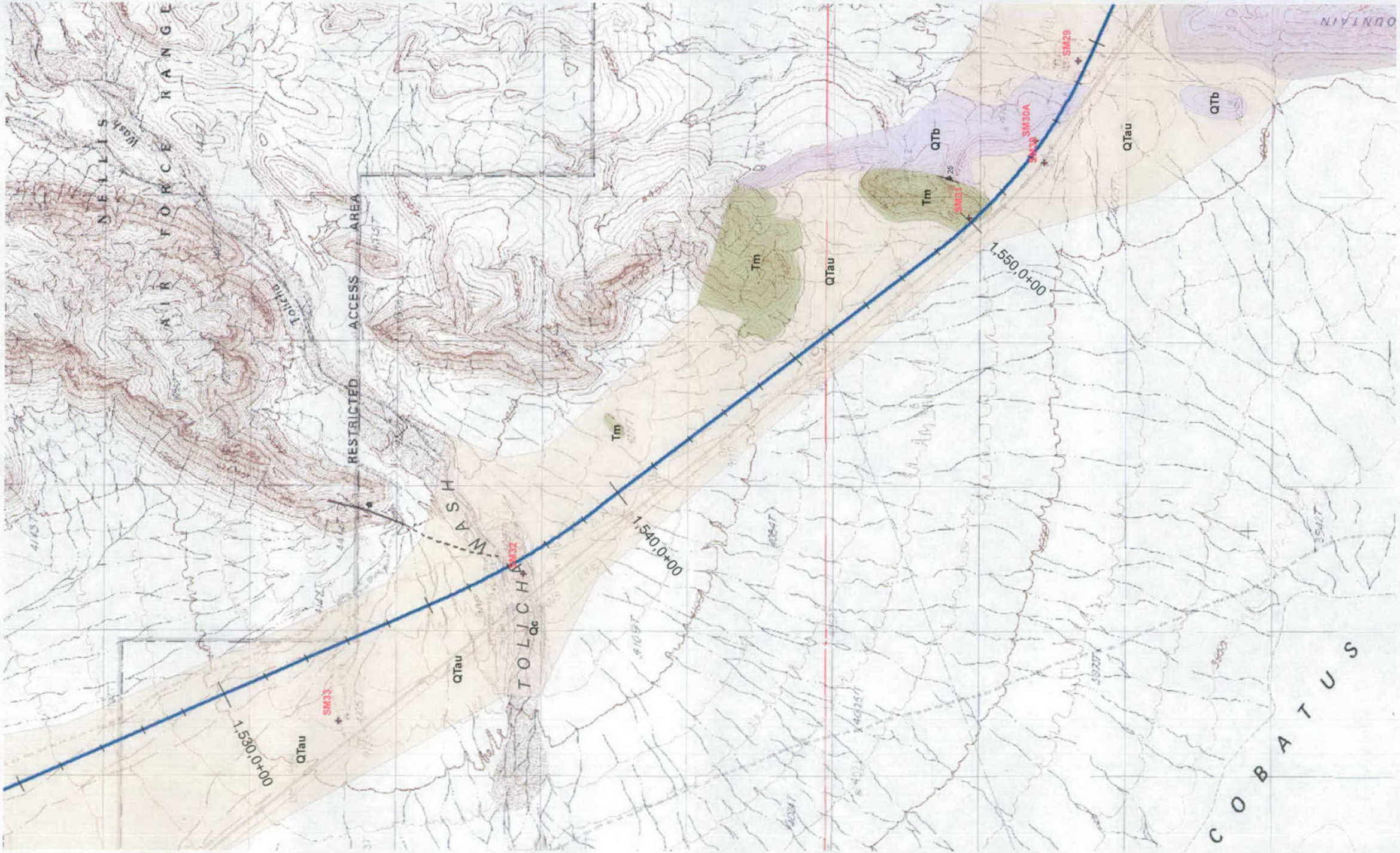

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FIGURE 3 (Sheet 61 of 71)

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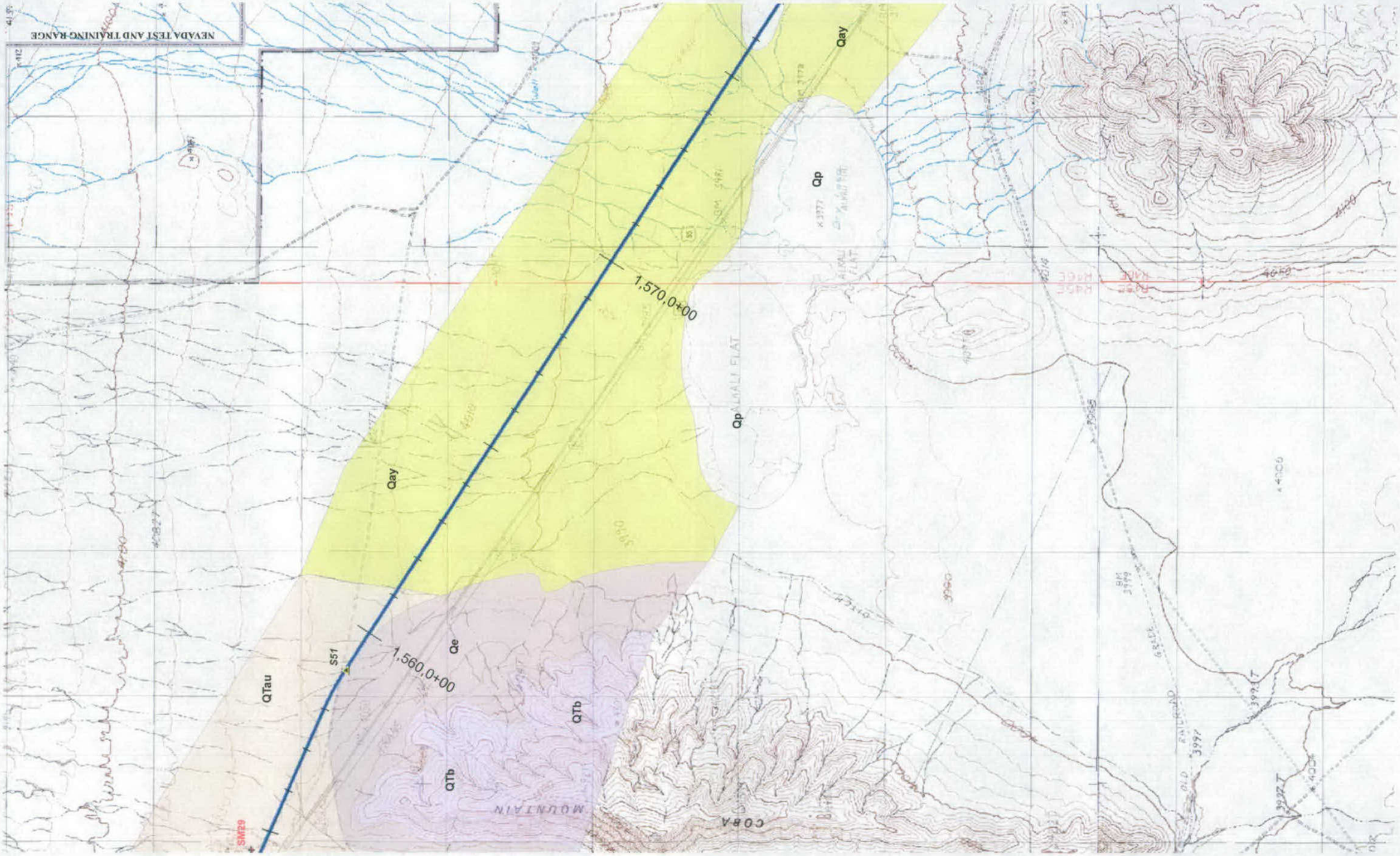

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FIGURE 3 (Sheet 62 of 71)

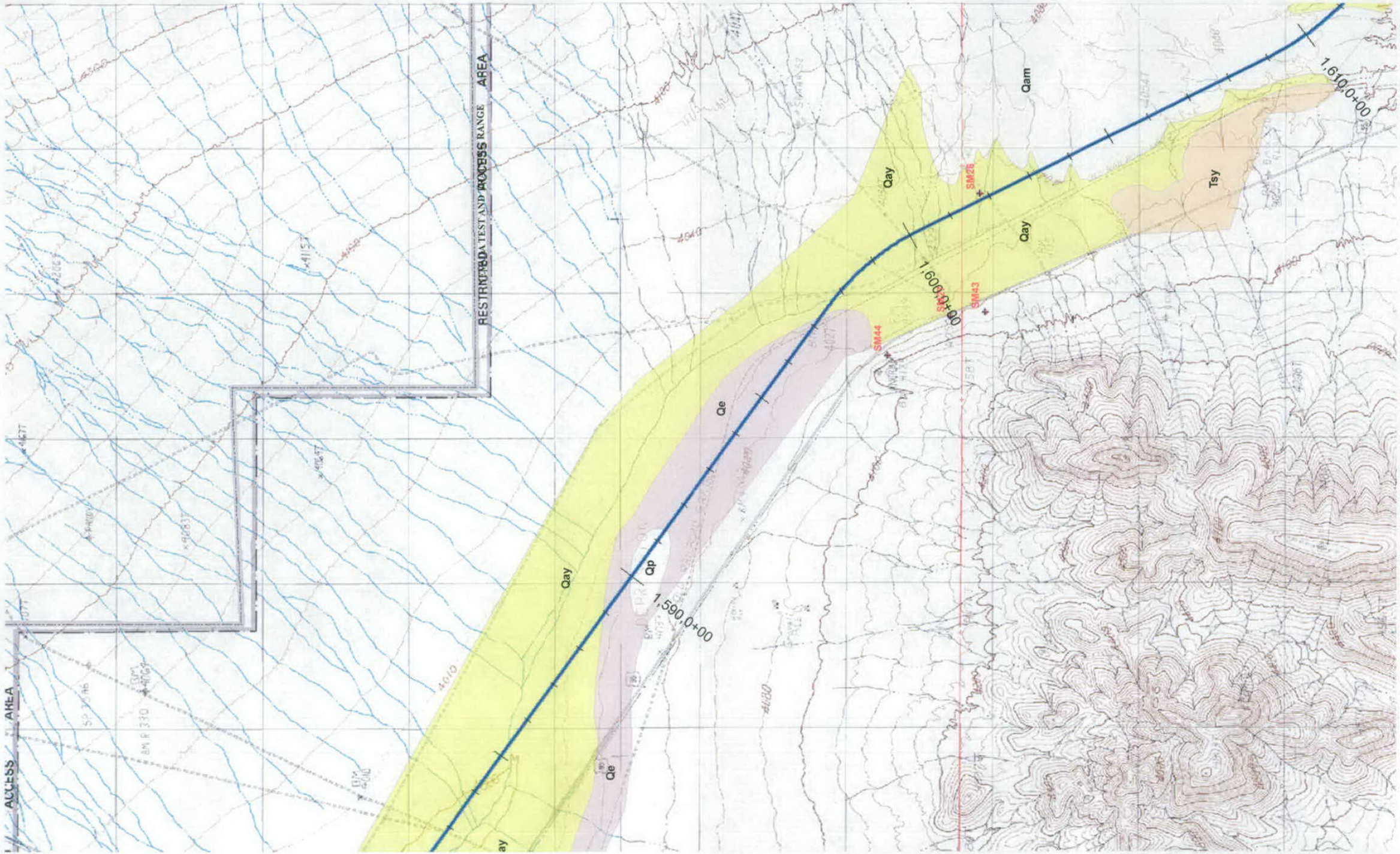

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FIGURE 3 (Sheet 63 of 71)

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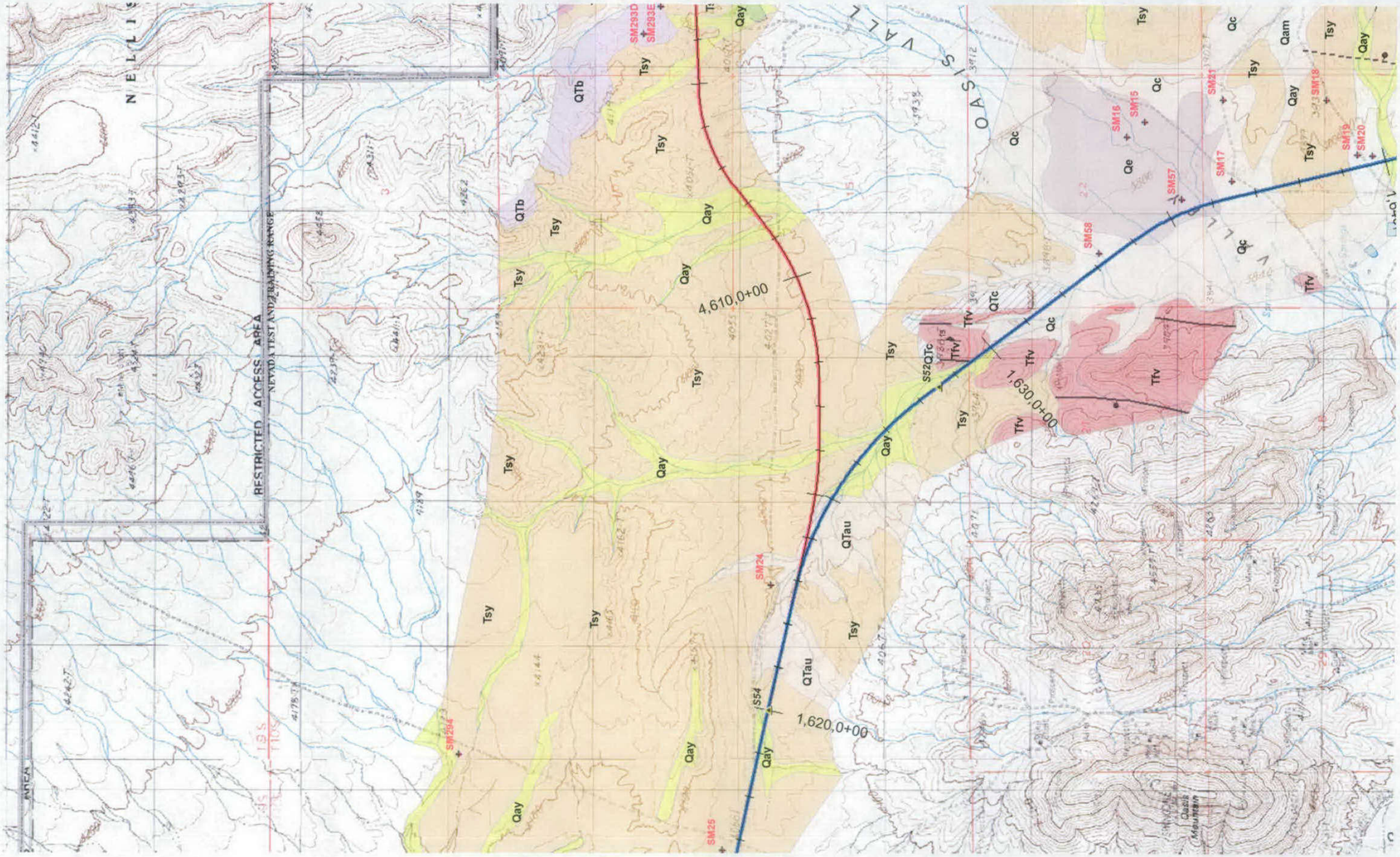

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FIGURE 3 (Sheet 64 of 71)

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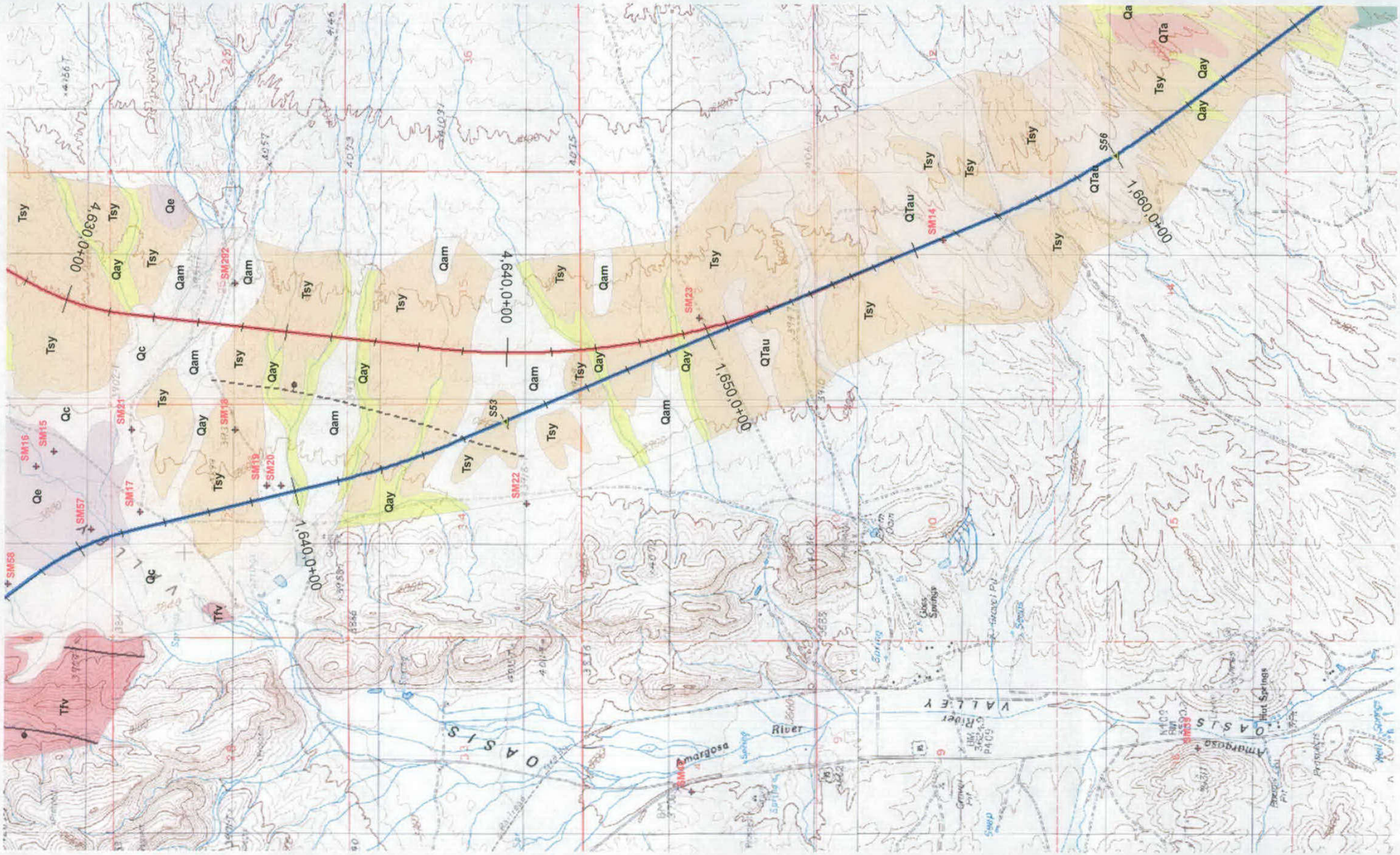

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FIGURE 3 (Sheet 65 of 71)

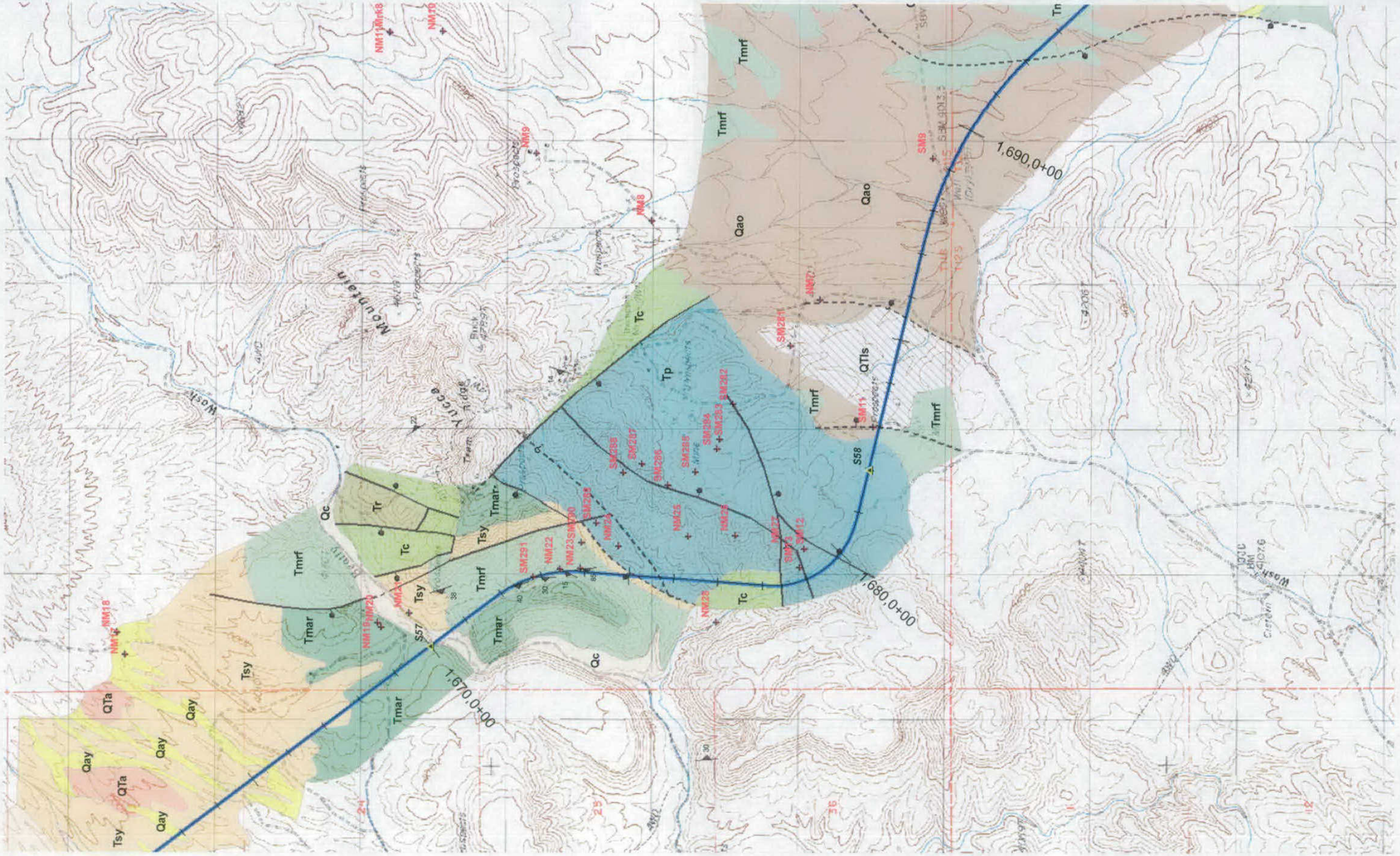

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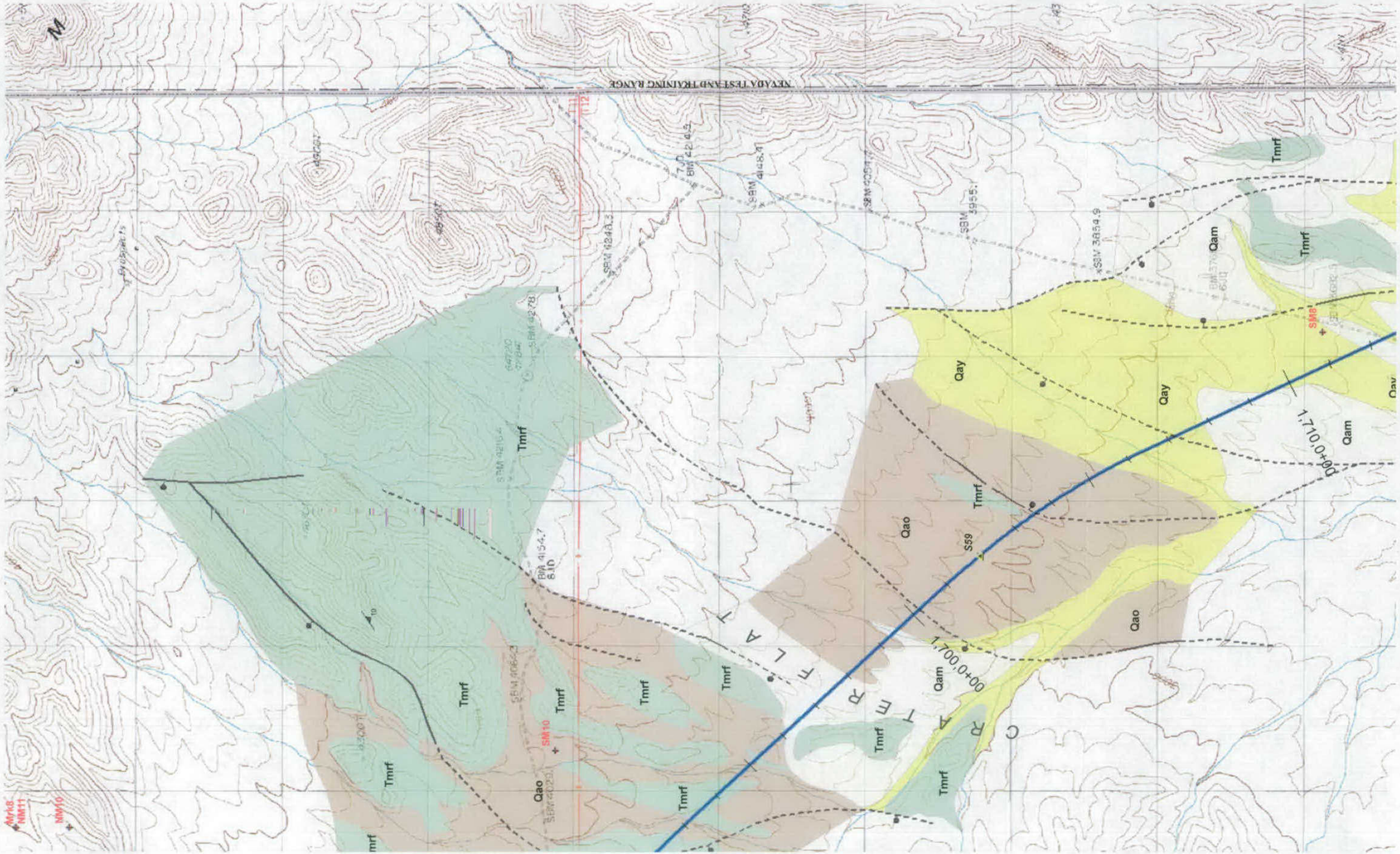
FIGURE 3 (Sheet 66 of 71)



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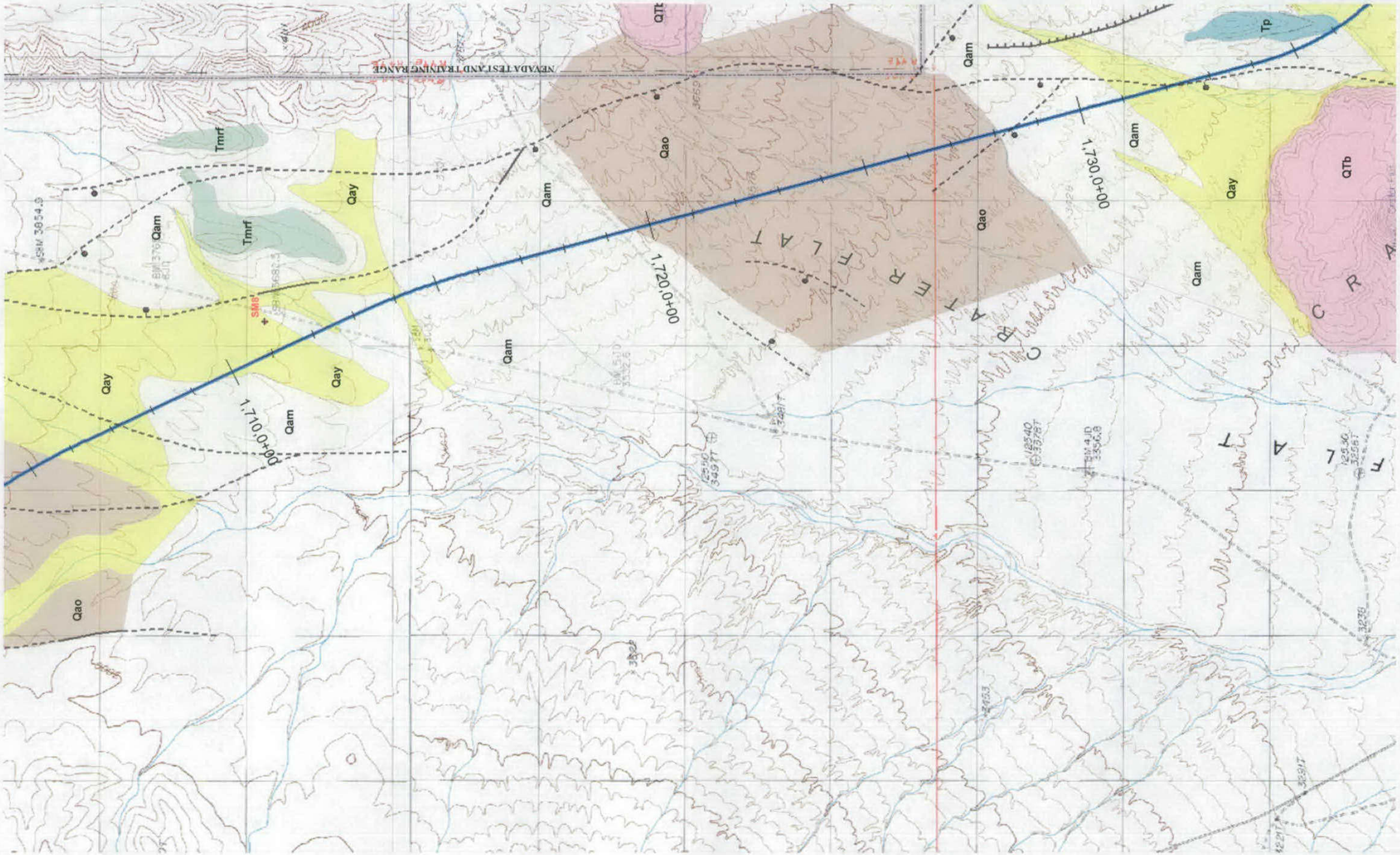

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FIGURE 3 (Sheet 68 of 71)

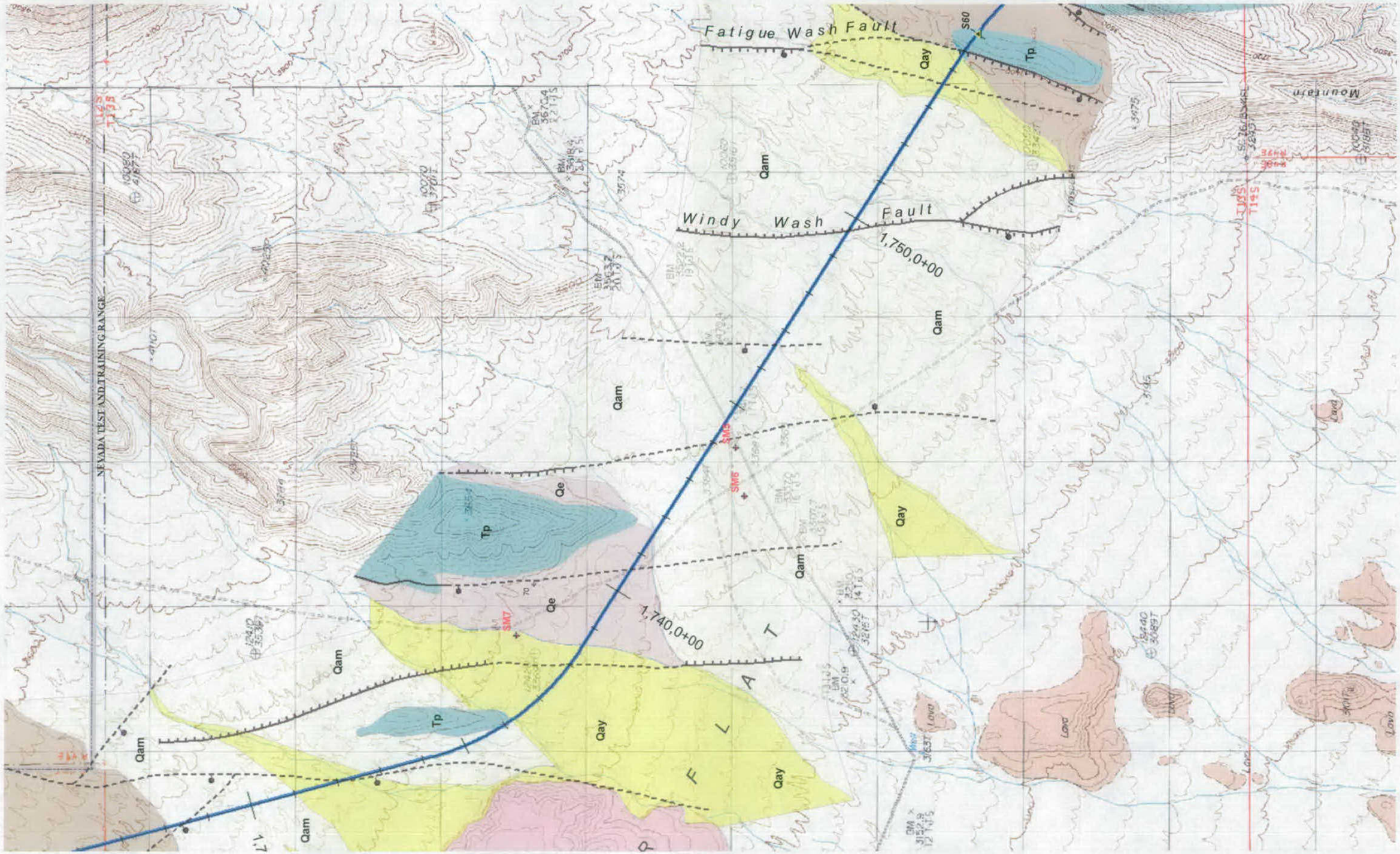

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FIGURE 3 (Sheet 69 of 71)

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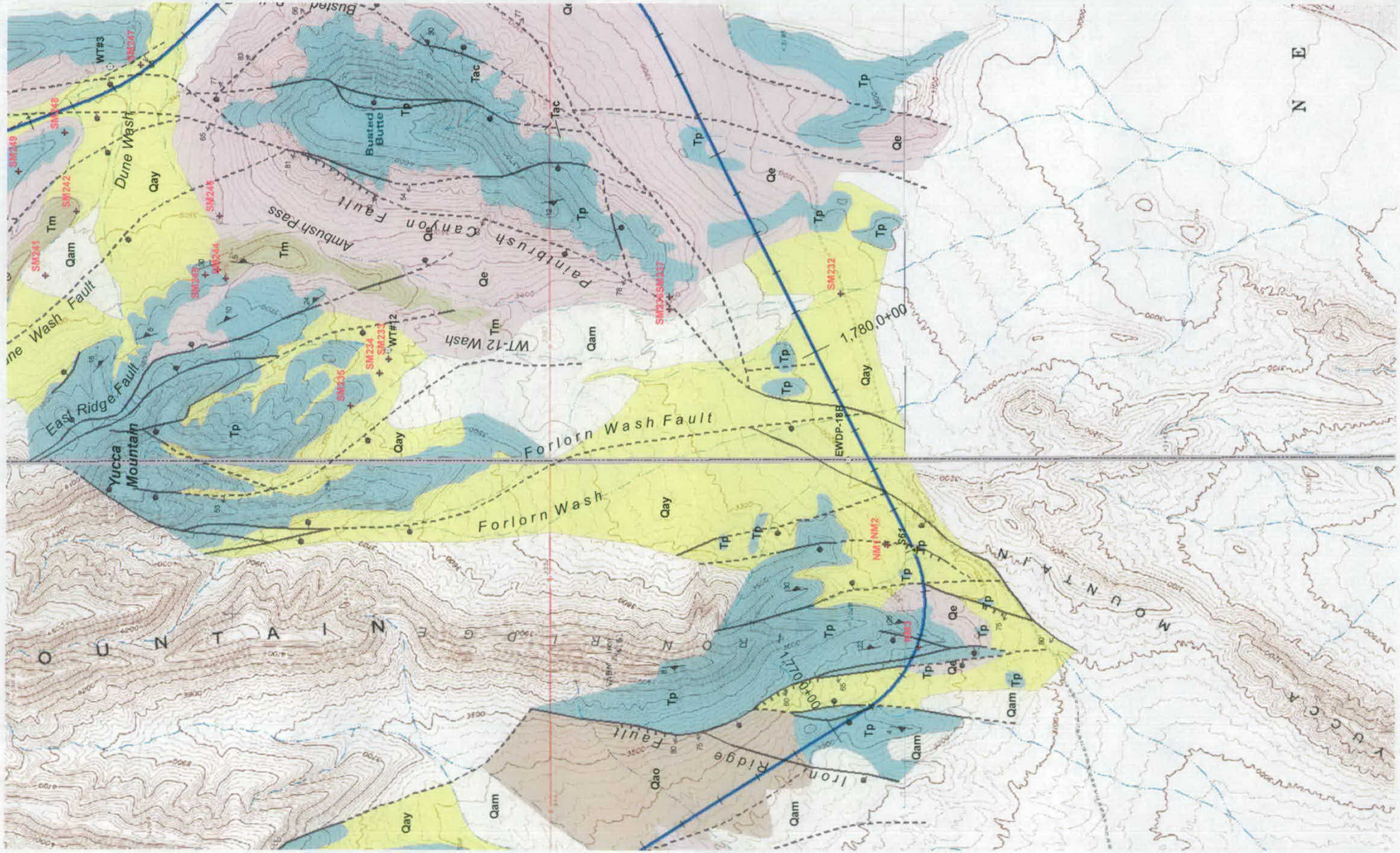

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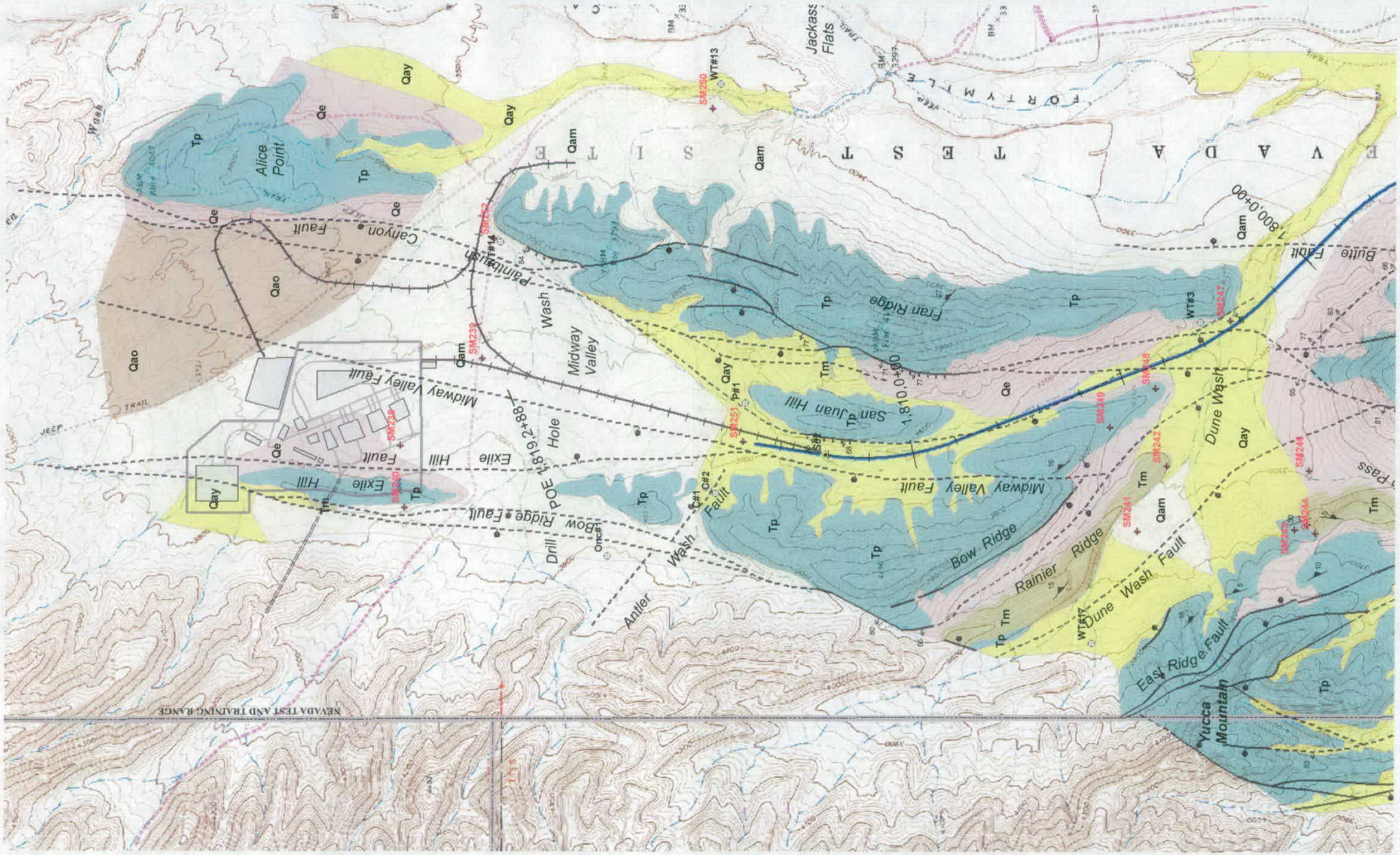

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