

April 16, 2021

Mr. David Ohori  
Supervisor/Senior Reclamation Specialist  
Mining and Minerals Division  
New Mexico Energy, Minerals and Natural Resources Department  
1220 South St. Francis Drive  
Santa Fe, NM 87505

Re: Rio Grande Resources Corp. Response to Additional Comments on the Application for Modification 20-1 to Mt. Taylor Mine, Permit No. CI002RE, Rio Grande Resources Corporation, Dated March 18, 2021

Dear Mr. Ohori,

This letter is Rio Grande Resources Corporation's (RGR) response to a comment letter by the New Mexico Mining and Minerals Division (MMD) dated March 18, 2021. That letter contained additional comments on RGR's response letter dated 12/7/20, pertaining to RGR's request for permit modification (MOD 20-1) submitted May 15, 2020. RGR's permit modification request (MOD 20-1) focused on:

- 1) An update of the Closeout/Closure schedule,
- 2) The expansion of the disposal cell and
- 3) An update of the PMLU.

#### Responses to MMD's Comment Letter of 3/18/21

RGR's responses are provided to each comment or question in the same order contained in the comment letter. The text of each comment or question as posed by MMD is in bold text, followed by RGR's response in regular font.

1. MMD accepts the RGR responses and notes that the requirements for the SWRP test plots studies of Condition 9.M.3 of Revision 13-2 are being addressed in separate submittals by RGR and that the test plot requirement may be changed as part of Modification 20-1.

RGR acknowledges the comment.

2. **MMD accepts RGR's** response.

RGR acknowledges the comment.

3. **MMD accepts RGR's** response.

RGR acknowledges the comment.

4. **MMD accepts RGR's** response.

RGR acknowledges the comment.

5. **MMD accepts RGR's** response.

RGR acknowledges the comment.

6. **MMD accepts RGR's** response.

RGR acknowledges the comment.

7. **MMD accepts RGR's response and notes that additional information on the** estimated volume of contaminated material from the Ore Pad and Ore Pad Runoff Retention Pond to be submitted by RGR may result in changes to the closeout plan that can be addressed in the updated closeout plan in 2022.

RGR acknowledges the comment.

8. **MMD accepts RGR's response and notes that additional information on the** estimated volume of contaminated material from the general mine site to be submitted by RGR may result in changes to the closeout plan that can be addressed in the updated closeout plan due in 2022.

RGR acknowledges the comment.

9. **MMD accepts RGR's response.**

RGR acknowledges the comment.

10. **MMD accepts RGR's response.**

RGR acknowledges the comment.

11. **MMD accepts RGR's response.**

RGR acknowledges the comment.

12. **MMD accepts RGR's response.**

RGR acknowledges the comment.

13. **MMD accepts RGR's response.**

RGR acknowledges the comment.

14. **MMD accepts RGR's response.**

RGR acknowledges the comment.

15. **MMD accepts RGR's response and notes that the information requested by MMD on the annual short-term and long-term water usage at the mine after closeout may be provided by RGR as part of the information to be submitted by RGR on the proposed water supply post- mining land-use ("PMLU"), if RGR wishes to pursue this PMLU.**

RGR acknowledges the comment.

16. **RGR's submittal to MMD dated February 22, 2021 adequately addresses MMD's comments.**

RGR acknowledges the comment.

17. **MMD accepts RGR's response.**

RGR acknowledges the comment.

18. **MMD accepts RGR's response.**

RGR acknowledges the comment.

19. Please provide an updated Facility Disposition Plan drawing DWG No. GS20-CL104-00, Sheet No. CL-04 showing the current proposed disposition of the buildings and facilities at the mine.

See the attached drawing "Facility Disposition Plan, CL-04, drawing No. GS20-CL104-00" dated 4/12/2021.

20. **MMD accepts RGR's response.**

RGR acknowledges the comment.

21. **MMD accepts RGR's response.**

RGR acknowledges the comment.

22. **MMD accepts RGR's response.**

RGR acknowledges the comment.

23. **MMD accepts RGR's response.**

RGR acknowledges the comment.

**24. MMD accepts RGR's response.**

RGR acknowledges the comment.

**25. MMD accepts RGR's response.**

RGR acknowledges the comment.

The following comments are based on **RGR's Submittal of an Updated Closeout Plan Cost Estimate**, dated December 29, 2020 and subsequent revisions dated January 22, 2021 and March 8, 2021:

1. Please use MMD's Guidance for Calculating Capital Indirect Costs for Mine Reclamation and Closure Cost Estimates to determine the indirect reclamation costs. The guidance includes Indirect Costs for contract management, performance & payment bonds, and liability insurance. Please include these Indirect Costs into the cost estimate. The guidance may be accessed at:

<http://www.emnrd.state.nm.us/mmd/MARP/MARPGuidanceGuidelines.html>

RGR has addressed this comment in the most recent version of the Mt Taylor Mine Closeout/Closure Cost Estimate, Rev 8.2 submitted 3/25/21.

2. In the cost estimate under Surface Facilities Demolition there is a task 1.3.24, called non-contaminated debris hauling and dumping/ stacking for salvage or disposal in pond basins. It is unclear if salvage value is assumed for any of the demolished material. Please add disposal costs for demolished material if salvage value was assumed.

The costs shown do not assume any salvage value for the demolished materials.

3. Some cost and quantity references cite links as a source. Please provide a copy or screenshot of the information since these links lead to error messages and not the required information.

See below for responses to comment #3, cited references:

Response to comment #3, cited references:

For sections 1.1.2 and 1.1.5

<http://www.structural-drafting-net-expert.com/steel-sections-i-beam-w-shape.html>

**Home Page**  
**Drafting Service**  
**Steel Sections**  
 North America  
 > Wide Flange Beams  
 > Standard Beams  
 > Beaming Piles  
 > Standard Channels  
 > Angles  
 Europe  
 > IPE  
 > IPN  
 > HE  
 > HL  
 > HU  
 > HP  
 > Equal Leg Angles  
 > Unequal Leg Angle  
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 United Kingdom  
 > UB  
 > UPE  
 > UC  
 > UBF  
 > CH

## Steel Sections

This part of the site represents standard steel sections tables (steel beam tables). Unique web design of our steel sections tables allows scrolling the table's data in two directions and keeping the headers of rows and columns visible on the screen - please allow your browser to run scripts, otherwise the tables can't work.

You can find in our tables both dimensions and properties for majority of the standard steel section like steel beams and columns, channels, angles, steel hollow sections.

At first, this part of the site was intended for internal use only. Later, we decided to open the tables for our visitors. Here is collected a variety of the steel beam tables which our team has used in its practice. In the event that we use other new kinds of steel sections tables we will gladly provide that standard data table on the site for our visitors use.

**Why we prefer to use our web version of the tables versus a printed form:**

**It is extremely convenient to use;**

**It is available anywhere and anytime you need it;**

**It can be updated easily.**

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**The steel sections classification mostly used in North America:**

Engineering  
Books

Conversion Tools

Geometry Formulas

Constructions

Which  
Impressed You

infoExchange

Ask our Experts

About Us

Contact Us

Disclaimer

### Steel sections classification mostly used in North America:

Values are presented in either Imperial (inch-pound) units or SI (Metric) units. The data presented in each system isn't exactly equal; therefore, each system should be used essentially separately. Combinations values from these systems aren't allowed. (ASTM A6M).

#### **I-beams (I-shaped cross-section)**

**W - Wide flange steel beam** (I-shaped cross-section) have parallel flange surfaces.

**S - American Standard Beam** (I-shaped cross-section) have a slope on the inner flange surfaces.

**HP - Bearing Pile** (H-shaped cross-section) have parallel flange surfaces and equal web and flange thicknesses.

**M - Miscellaneous shapes** cannot be classified as standard i-beams (W,S,HP), available from a limited number of manufacturers.

#### **Channels (C-shaped cross-section)**

**C - American Standard Channels** have a slope on the inner flange surfaces.

**MC - American Miscellaneous Channels** cannot be classified as standard channels, available from a limited number of manufacturers.

#### **Angles (L-shaped cross-section)**

**L - shapes are equal leg and unequal leg angles.**

Reference for Section 1.2.2

<https://www.epa.gov/sites/production/files/2016-11/documents/appendixl.pdf>

**Powertech (USA) Inc.  
Dewey-Burdock Project  
2008 Pumping Tests:  
Results and Analysis**

**November 2008**

Prepared for  
**Powertech (USA) Inc.**  
**5575 DTC Parkway, Suite 140**  
**Greenwood Village, CO 80111**  
Telephone: (303) 790-7528  
Telefax: (303) 790-3885

Prepared by  
**Knight Piésold and Co.**  
**1580 Lincoln Street, Suite 1000**  
**Denver, Colorado 80203**  
Telephone: (303) 629-8788  
Telefax: (303) 629-8789

**Project DV102.00279.01**

Rev. No.	Date	Description	Knight Piésold	Client
0	November 2008	Final to Client	Paul Bergstrom	Powertech (USA)

**Reference for Section 1.3.21**

[http://www.engineeringtoolbox.com/ansi-steel-pipes-d\\_305.html](http://www.engineeringtoolbox.com/ansi-steel-pipes-d_305.html)



[www.EngineeringToolBox.com](http://www.EngineeringToolBox.com)  
[Engineering Toolbox](#) - Resources, Tools and Basic Information for Engineering and Design of Technical Applications!

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**Engineering Toolbox**

**Tools and Basic Information for Design, Engineering and Construction of Technical Applications**

Sponsored Links

**Steel Pipe Expansion Loops**

Thermal expansion and steel pipe expansion loops capacities

- Please explain the significant decrease in the \$/SF for the task concrete slab, removed under section 1.3, Surface Facilities Demolition. The decrease is from \$4.89/SF to \$0.81/SF.

The decrease in price from 2013 to 2020 was due to a change in remediation plans for concrete slabs. In 2013 the concrete slabs were to be removed. In the 2020 version, the concrete slabs were to be left in place and covered with 2 feet of soil. Thus, the \$0.81/SF unit price.

- It appears there is a typo in line 114 column O. The cost reference should be RSM 02 41 16.13 0500, 5000 not RSM 02 41 16.13 0500, 5001.

This has been corrected in Cost Estimate Rev 8.2, submitted 3/25/21.

- There is no change in costs for section 1.3.23, manholes and culverts. Please clarify if the costs for this item are in fact the same as they were in 2013.

The culverts and manholes in section 1.3.23 pertain to the reconstruction of the ore pad prior to the resumption of mining activities. Because RGR began closure activities at the Mt Taylor Mine rather than resume mining, the reconstruction of the ore pad was never initiated. No construction was performed therefore no costs were included. Please see Cost Estimate Rev 8.2, submitted 3/25/21.



7. Please update the 2013 costs for the 14 ft. and 24 ft. shaft closures.

The costs for plugging the shafts have been updated in Cost Estimate Rev 8.2, submitted 3/25/21.

8. It appears that the value or cost reference is wrong for section 1.1.3, 24 ft shaft and vent closure (line 22). The value provided was \$1,245/day which is from RSM 01 54 19.50 0100 not RSM 01 54 19.50 0200. The value for RSM 01 54 19.50 0200 is \$1,370/day. Please clarify if the RSM reference is RSM 01 54 19.50 0100 or RSM 01 54 19.50 0200 and correct the value in the cost estimate.

The value listed is from 2019 RSMeans and is correct both in amount and in citation. All RSMeans citations are from the 2019 data, which were the most recent available when this estimate was initially prepared.

The following comments are based on **RGR's Submittal of a Shaft Cap System Concept as an Alternative to the Approved Shaft Plug Concept**, dated December 30, 2020:

MMD has reviewed the proposed Shaft Cap System Concept and consulted with NMED (see NMED comments, dated March 12, 2021) and believes that the Approved Shaft Plug Concept approved by MMD under Revision 13-2 is likely more permanent and may be more protective of the environment. MMD **appreciates RGR's concern for worker safety during the shaft closure and** plugging operations, however, a shaft plug of similar design and scale to the design approved for the Mt. Taylor Mine by MMD under Revision 13-2 was recently successfully constructed at the CMI Questa Mine in Questa, New Mexico. Therefore, at this time, MMD will not approve the proposed Shaft Cap System Concept. Please update the closeout plan cost estimate for the current costs to plug the 14-foot and 24-foot diameter shafts under the MMD approved design.

Based on the response from MMD and NMED, RGR withdraws its proposed plan to construct a shaft cap at this time. RGR will plan to construct the shaft plug, as approved. The costs for the approved shaft plug have been updated in Cost Estimate Rev. 8.2 submitted 3/25/21.

RGR's engineering consultant believes the conditions and plug design at the Questa mine are different from the Mt Taylor mine. RGR's proposed cap design was reviewed by a New Mexico registered professional engineer and considered to be robust for the application. RGR still believes crew safety is of the utmost importance and may present the cap concept at a future time.

Additional MMD Comments

Based on the review of the Application, MMD is concerned that the Application and associated updated Closeout Plan Cost Estimate do not address the reclamation of the remaining portion of the low-grade ore stockpile at the mine in the case that excavation and removal of the low-grade ore is discontinued. Currently, the mine is excavating and shipping the low-grade ore from the existing low-grade ore stockpile to a mill located in Blanding, Utah. As of February 16, 2021, RGR reported that approximately 36,909 tons of the low-grade ore stockpile has been removed from the mine, and that excavation and removal is ongoing. According to RGR, over half of the existing low-grade ore stockpile has been removed and that removal of the low-grade ore will be completed within the next seven to eight months at the current rate of removal. MMD is aware that in the past two years RGR has performed a significant amount of reclamation including the excavation of contaminated sediments from eight of the mine water treatment system ponds and the construction of a waste disposal cell and reclamation of the existing SWRP at the mine without a release of financial assurance in accordance with 19.10. 12.1210 NMAC. Therefore, at this time MMD will not require additional financial assurance for the reclamation of the remaining low-grade ore stockpile. However, MMD may require RGR to provide a closeout plan and financial assurance for the remaining low-grade ore stockpile if removal has not been completed by 2022, as part of the application for the Mt. Taylor Mine Closeout Plan Update.

**RGR acknowledges the comment and will work diligently to complete the removal of the remaining low-grade ore before that time.**

## Additional Agency Comments

### Mining Environmental Compliance Section (MECS)

In general, RGR responded adequately to the MECS comments in the RTC except for the following comment:

RTC

1. NMED Specific Comment #2 – **RGR states that “once remediated, the formerly diesel- contaminated material may be found suitable for use as clean backfill elsewhere on the site.” Once this material is placed in the disposal cell, this material can no longer be considered “clean backfill.”** NMED will not allow this material to be used as clean backfill if it has been placed in the disposal cell.

RGR has always held the position that any materials placed in the disposal cell are to remain there. RGR wants to avoid placing clean soils in the disposal cell as valuable capacity is limited.

To clarify RGR’s previous response regarding remediation of diesel contaminated soils, RGR intends to first determine if they are radiologically contaminated. If the soils are radiologically contaminated (above permitted clean-up levels), then diesel contamination will be remediated and the soils placed in the disposal cell. If the soils are not radiologically contaminated then diesel contamination will be remediated and the resultant clean soil used as fill material or left in place. RGR is considering both in-situ and ex-situ diesel remediation options.

Cost Estimate

1. Many of the unit costs appear to have stayed the same since 2013. In the cover letter, RGR states that the **“pricing was adjusted in the updated cost estimate from the 2013 values.”** Please explain why certain unit costs were not adjusted for inflation.

Unit prices for all line items were updated according to the 2019 RS Means Heavy Cost Construction Cost Data. RSM means values may have increased, decreased, or remained unchanged relative to the 2013 values. Please refer to the Cost Estimate Rev 8.2 submitted 3/25/21 for the latest changes.

2. The Cost Estimate does not include a basis for any of the unit costs. Please provide the basis for each unit cost (i.e., RSM means, direct quotes, cost centers, etc.).

RGR has included the unit cost references in Cost Estimate Rev 8.2 submitted 3/25/21. Unit cost references are listed in the column titled "Cost Reference".

- 3. The cover letter states that the “currently projected material volumes were used in the updated cost estimate.” Please describe how the projected material volumes were calculated and if they are based on the Closeout Plan design drawings.**

Currently projected volumes of earth materials were estimated from Closure/Closeout Plan drawings and recent field observations, cleanup experiences, site knowledge and radiological surveys. Closure/Closeout Plan drawings were used as the basis for aerial estimation. Radiological survey information was used in conjunction with the Closure/Closeout Plans to better define the aerial extent of contamination. Contamination depth was estimated using excavations, field observations and cleanup experiences in conjunction with radiological surveys. Volumes were then calculated from the estimated aerial extents and depths of the various zones.

Structural and linear material volumes were estimated using dimensional measurements of buildings, pipelines and other facility structures. Debris volumes were conservatively calculated using visual estimations as well as field measurements of piles. Radiological surveys were used to classify the various materials as contaminated or clean. Volumes were calculated using simple mathematical concepts based on shape and height.

4. In Section 1.1.7 of the Cost Estimate, the costs for the Access/Utility Tunnels Backfill were retained. NMED understands that the PMLU change is not part of this modification. Therefore, these costs need to be included in the Cost Estimate.

RGR has stated it will not pursue the water supply PMLU at this time. However, changes to the commercial PMLU were a key part of the MOD 20-1 (changes to commercial building disposition).

RGR proposed to “retain” the utility tunnels for the updated commercial PMLU. This was because all site utilities (including electrical and water) pass through the utility tunnels before entering the buildings.

5. In numerous sections of the Cost Estimate (i.e., Sections 1.3.1, 1.3.2, 1.3.3, etc.) the cost associated with the concrete slab removal changed from \$4.89/ft<sup>2</sup> in 2013 to \$0.81/ft<sup>2</sup> in 2020. Please discuss why the costs significantly decreased.

The decrease in price from 2013 to 2020 was due to a change in remediation plans for concrete slabs. In 2013 the concrete slabs were to be removed. In the 2020 version, the concrete slabs were to be left in place and covered with 2 feet of soil. Thus, the \$0.81/SF unit price.

6. In Section 1.3.5, 1.3.6, and 1.3.7, the costs for the Hoist House demolition need to be added back in because the PLMU is not changing in this modification.

See RGR's response in MECS comment #4 above. One of the key parts of the MOD 20-1 request was to update the commercial PMLU. RGR requested to retain this building for the commercial PMLU in Mod 20-1.

7. In Sections 1.3.8, 1.3.9, 1.3.10, and 1.3.11 (steel frame), the costs are removed. Financial assurance associated with demolition projects has not been released. The costs need to be added back in until RGR formally requests and receives approval for financial assurance release of these items.

RGR added these costs back in to the Cost Estimate after discussion with MMD. Please see Cost Estimate Rev 8.2, submitted 3/25/21.

8. In Section 1.3.17, the total linear feet of steel rail removal decreased from 8,787 ft in 2013 to 7,487 ft in 2020, which results in a significant decrease in cost associated with removal. Please explain why there was a decrease in the total linear feet of steel rail removal.

RGR changed the quantity of lineal feet of rail in the 2020 Cost Estimate to match the 2013 quantity after discussion with MMD. Please see Cost Estimate Rev 8.2, submitted 3/25/21.

9. In Section 1.3.20, the linear footage of 12 in., Schedule 40 steel decreased from 3,000 ft in 2013 to 1,000 ft in 2020. Please explain this decrease.

RGR changed the quantity of lineal feet of pipe in the 2020 Cost Estimate to match the 2013 quantity after discussion with MMD. Please see Cost Estimate Rev 8.2, submitted 3/25/21.

10. In Section 1.3.23, the costs for removal of the manholes and culverts need to be added back in because the PMLU change is not part of this modification.

The culverts and manholes in section 1.3.23 pertain to the reconstruction of the ore pad prior to the resumption of mining activities. Because RGR began closure activities at the Mt Taylor Mine rather than resume mining, the reconstruction of the ore pad was never initiated. No construction was performed therefore no costs were included. Please see Cost Estimate Rev 8.2, submitted 3/25/21.

11. In Section 1.3.24, the cubic yards of uncontaminated debris to be hauled/dumped decreased from 3,897 cubic yards in 2013 to 1,584 cubic yards in 2020. Please explain this decrease in volume.

RGR changed the quantity of uncontaminated debris in the 2020 Cost Estimate to match the 2013 quantity after discussion with MMD. Please see Cost Estimate Rev 8.2, submitted 3/25/21.

12. In Section 1.4.2, Borrow Soil Area, the costs for reclamation of this area was removed in 2020. Financial assurance associated with reclamation of the borrow soil area has not been released. This cost needs to be added back in

RGR changed the quantity of the Borrow Soil Area in the 2020 Cost Estimate to match the 2013 quantity after discussion with MMD. RGR also added the updated cost for 2020. Please refer to Cost Estimate Rev 8.2, submitted 3/25/21.

13. In Section 1.4.2, 24-ft Shaft Area and South Storm Water Pond, the cubic yards of contaminated soil to be removed significantly decreased from 2013 to 2020. Please explain this decrease in volume of contaminated soil to be removed.

The reduction of estimated contaminated soil for the "24-ft shaft area" in 2020 was a result of recent radiological surveys over the area. The 2013 volume estimate was a conservative estimate made before radiological surveys were performed over the area. The 2013 estimates were based on different assumptions than exist today at the site.

14. In Section 1.4.3 Pond Backfill by Pond Berm Excavation and Placement as Backfill, the volume of large-scale earthwork decreased from 170,060 cubic yards in 2013 to 130,000 cubic yards in 2020. In addition, the costs **for the "total pond area less the pond basins" are indicated to be** included in the costs for large-scale earthwork. Please explain the decrease in volumes and provide a discussion of how the costs for the **"total pond area less the pond basins" are included in the large-scale earthwork costs.**

RGR revisited section 1.4.3 after discussion with MMD (see Cost Estimate Rev 8.2, 3/25/21). The current estimated volume for the line item "Pond Backfill by Pond Berm Excavation and Placement as Backfill" is 162,000 bank cubic yards, a 5% volume reduction from the 2013 estimate of 170,060 cubic yards. The small reduction in estimated volume is based on current conditions and a revision of the final grading plan. Volume and pricing for line item "Mine Water Treatment Pond Area cut/fill" has been added back into the 2020 estimate (see Cost Estimate Rev 8.2, 3/25/21).

15. **Section 1.4.4 states the costs for “contaminated soil” disposal were \$25,404 in 2013, but RGR indicates that this was “previously constructed” in the 2020 costs.** The change in costs between 2013 to 2020 appears to be \$11,374, but this does not make sense because the 2020 Cost Estimate does not include the cost for this activity. Please explain this discrepancy in cost.

RGR revisited section 1.4.4 after discussion with MMD. The Cost Estimate Rev 8.2 (dated 3/25/21) version shows the 2020 volume and pricing for the line item “Place and compact disposal cell berms”, where the \$11,374 difference occurs. A check of the spreadsheet cell formula shows the cell calculation erroneously references the next line down. The difference should actually be only -\$6,786, not the stated -\$11,374.

16. In Section 1.4.5, the costs for disposal of broken concrete, rock, concrete/rock, and concrete, rock mulch are significantly less in 2020 compared to 2013 costs. Please discuss the decrease in volumes and associated costs.

RGR revisited section 1.4.5 after discussion with MMD (see Cost Estimate Rev 8.2, 3/25/21). In the Cost Estimate Rev 8.2, all material quantities in Section 1.4.5 are the same as 2013, or greater. The lower 2020 cost for line item “Crushed rock and concrete hauling” results from selecting a different RSMMeans Cost Reference (which takes into account a different method of handling rock material). The lower 2020 cost for line item “Placing on waste pile slope” results from using a different RSMMeans Cost Reference (a different placement application).

17. In Section 1.5.1, the costs for seed and drilling in 2020 are \$56.03/acre compared to \$871.20/acre in 2013. Please explain the basis for the \$56.03/acre cost. If the cost is based on a quote, please provide the quote.

RGR revisited section 1.5 after discussion with MMD (see Cost estimate Rev 8.2, 3/25/21). The seed and drilling price for 2020 was changed to \$1,071.47, reflecting the use of the currently mandated “state” seed mix and drilling costs (RSMMeans).

## Mine Cap

1. The approved 2013 CCP included a far more robust shaft closure system than what is proposed in the Mine Cap proposal. The 2013 CCP proposed a 62-ft long concrete plug in the 24-ft shaft and a 40-ft long concrete plug in the 14-ft shaft. In addition, Section 4.1 in the 2013 CCP **states that “the remainder of the shaft, as well as connecting tunnels**

and raises, will be backfilled with cementitious slurry of soil, Portland **cement, fly ash, and water.” The Mine Cap proposal does not include a** concrete plug, but rather a 2-foot concrete cap on the ground surface. This shaft closure proposal is not considered permanent and may not be environmentally protective. The currently approved shaft closure system and cost estimate needs to be carried forward in this updated CCP.

Based on the response from MMD and NMED, RGR withdraws its proposed plan to construct a shaft cap at this time. RGR will plan to construct the shaft plug, as approved. The costs for the approved shaft plug have been updated in Cost Estimate Rev. 8.2 submitted 3/25/21.

RGR’s proposed cap design was reviewed by a New Mexico registered professional engineer and considered to be robust for the application. RGR still believes crew safety is of the utmost importance and may present the cap concept at a future time.

## NMED - Air Quality Bureau

### Recommendation

The AQB has no objection to revision of the mine close out/closure plan.

RGR acknowledges the comment.

## NMED – Surface Water Quality Bureau (SWQB)

SWQB does not have any new comments on the above submittals and defers to the Director of Mining and Minerals Division regarding the adequacy of cost estimates pursuant to §19.10.5.506 New Mexico Administrative Code (NMAC).

RGR acknowledges the comment.

## Office of the State Engineer (NMOSE)

### Comments/Recommendations

1. The shaft and conduit workings have penetrated unsaturated geologic units, as well as saturated units and confining units to terminal depth. Previous CCP plans indicate that these shafts and



**conduits were cased and grouted to prevent water intrusion. We would be interested in the original design and construction details of these shafts. The update request also indicates a possibility of simply capping the shafts (without plugging). We would like to know which regulatory agency offers approval that simply capping a shaft might offer perpetual segregation of aquifers.**

**RGR's response simply states that capping or plugging is widely used in mine shaft closure in New Mexico. We like to reiterate that design and construction details of the shafts would help us more fully assess the adequacy of the proposed shaft closure procedures in minimizing intermingling of, and communication between, penetrated aquifers.**

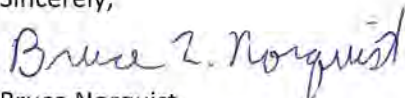
Based on NMOSE's original comment, RGR was unclear that shaft design and construction information was being requested at that time. RGR is providing design drawings of the 14- and 24-foot diameter shafts, as approved for construction, with this response (Appendix A).

RGR believes the shaft linings are functioning as intended, based on recent water sample results from several Point Lookout aquifer water wells. These wells are in close proximity to the shafts and the water quality has been in compliance with 20.6.2.3103 NMAC.

RGR would be happy to conduct an on-site tour of the facility for NMOSE and to further discuss any topics regarding the shafts.

If you have any questions, please contact me at (505) 287-7971 or by email at [bruce.norquist@ga.com](mailto:bruce.norquist@ga.com). A hard-copy of this document is also being sent by regular mail.

Sincerely,



Bruce Norquist  
Facilities Manager, Mt. Taylor Mine  
Rio Grande Resources Corporation

cc: Ashlyne Winton, NMED Ground Water Quality Bureau (GWQB), via email








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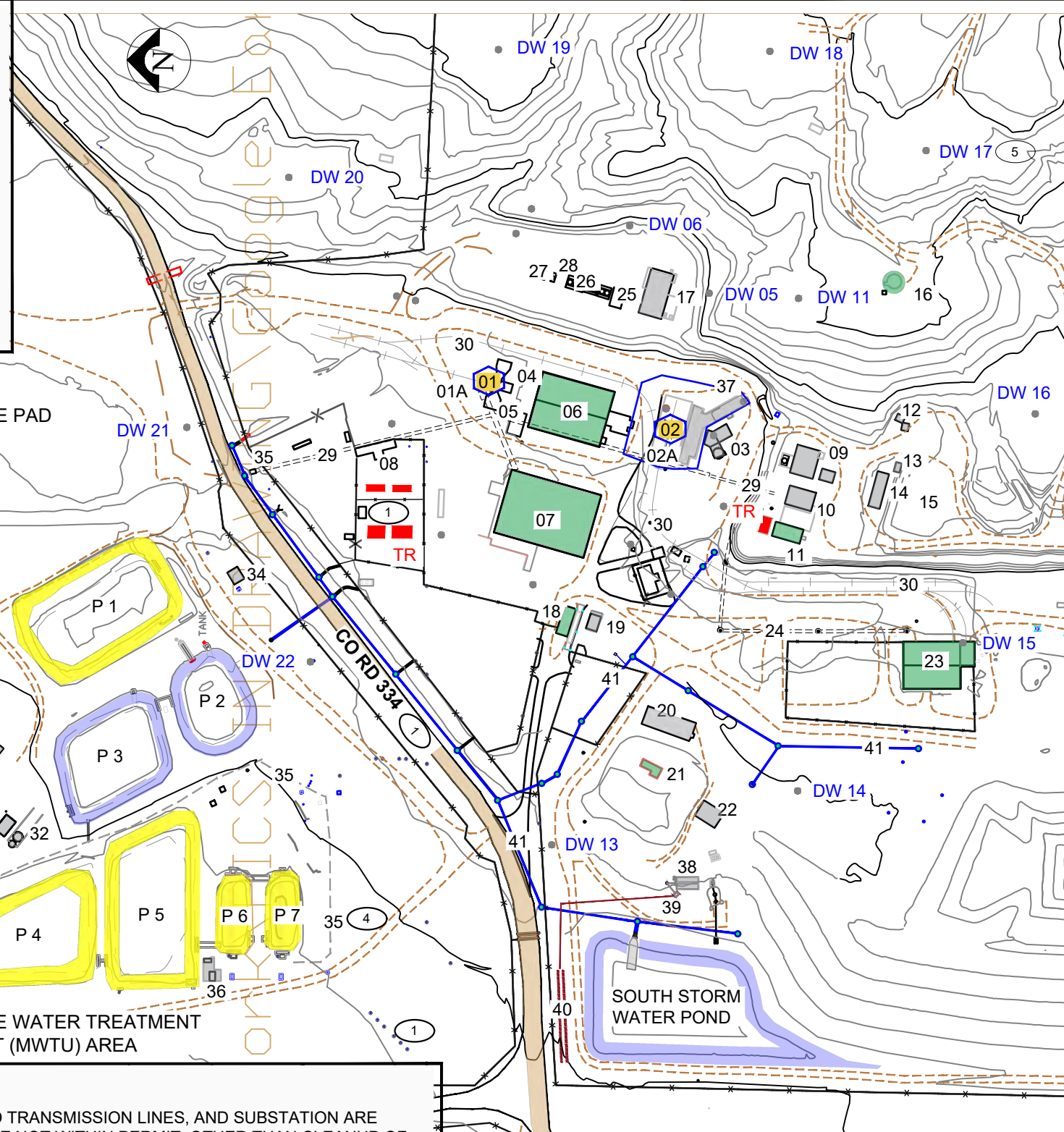
3

2

1

### LEGEND

-  PONDS TO RETAIN
-  PONDS TO BE FILLED IN
-  BUILDINGS TO BE DEMOLISHED
-  BUILDINGS TO RETAIN
-  ELECTRICAL TRANSFORMERS TO BE RETAINED
-  STORM DRAINAGE SYSTEM
-  MINE SHAFTS



### FACILITY DISPOSITION TABLE (12 / 5 / 2020)

FACILITY DESCRIPTION	TYPE	DISPOSITION	FACILITY DESCRIPTION	TYPE	DISPOSITION
01 MANWAY SHAFT	RC	CO	22 FAN SHOP	ST	D
01A MANWAY HEADFRAME	SS	D	23 CAR MAINTENANCE SHOP	ST	R
02 PRODUCTION SHAFT	RC	CO	24 CMP UTILITY TUNNEL	CMP	R
02A PRODUCTION HEADFRAME	SS	D	25 PUMP BUILDING	ST	D
03 MINE EXHAUST FAN	SS	D	26 COOLING TOWER	SS	D
03A EXHAUST FAN FOUNDATION	RC	D	27 CHLORINE BUILDING	ST	D
04 STORAGE BUILDING	ST	D	28 CONDUIT 1	SS	D
05 GLYCOL HEAT EXCHANGER	SS	D'	29 CONCRETE UTILITY/ ACCESS TUNNEL	RC	R
06 HOIST HOUSE	ST	R	30 MINE CAR RAILS	SS	D
07 SERVICE BUILDING	ST	R	31 BARIUM CHLORIDE BUILDING	ST	D'
08 SUBSTATION	EL	R	32 MIXING TANKS	SS	D
09 WATER TREATMENT BUILDING	ST	D'	33 ION EXCHANGE PLANT	ST	D
10 COMPRESSOR BUILDING	ST	D	34 FLOCCULENT BUILDING	ST	D'
11 ELECTRICAL BUILDING	ST	R	35 24" DIA. TREATED WATER DISCHARGE PIPE	SS	D
12 PORTABLE BUILDING	ST	D'	36 MWTU ELECTRICAL / PUMP BUILDING	ST	D
13 FUEL PUMP HOUSE	ST	D	37 PRODUCTION SHAFT ORE LOADING AREA AND WASH BAY	RC	D
14 CARPENTER SHOP	ST	D'	38 SANITARY TREATMENT PLANT	RC	D
15 FUEL STORAGE TANKS	SS	D'	39 SEPTIC TANK	RC	R
16 WATER TANK	SS	R	40 SEPTIC DRAIN FIELD	PVC	R
17 YORK CHILLER	SS	D	41 STORM DRAINAGE SYSTEM	CMP	R
18 GUARD HOUSE/ SECURITY BUILDING	ST	R			
19 FIRE EQUIPMENT BUILDING	ST	D'			
20 CORE STORAGE/ FIELD OFFICE	ST	D			
21 ADOBE RUIN / PRE-MINING STRUCTURE	AD	R			

#### BUILDING TYPE KEY

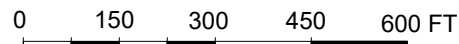
- AD = ADOBE STRUCTURE
- CMP = CORRUGATED METAL PIPE
- EL = ELECTRICAL EQUIPMENT
- PVC = PVC PIPE
- RC = REINFORCED CONCRETE
- ST = STEEL FRAME WITH STEEL SIDING
- SS = SOLID / STRUCTURAL STEEL

#### DISPOSITION KEY

- CO = SEAL SHAFTS WITH PLUG AND COVER WITH CLEAN SOIL
- D' = ALREADY DEMOLISHED AS OF DECEMBER 2020
- D = TO BE DEMOLISHED
- R = RETAIN FOR POST MINING LAND USE

### NOTES

- 1 COUNTY ROAD 334, POWER POLES AND TRANSMISSION LINES, AND SUBSTATION ARE FACILITIES OWNED BY OTHERS AND ARE NOT WITHIN PERMIT. OTHER THAN CLEANUP OF CONTAMINATED SOILS, THESE FACILITIES ARE NOT SUBJECT TO CLOSEOUT.
- 2 LAND NOT RETAINED BY RGR TO BE RETURNED TO PRE-MINE OWNERS.
- 3 DEWATERING AND PROCESS WATER PIPELINES (NOT SHOWN) TO BE DEMOLISHED
- 4 24" DIA. STEEL TREATED WATER DISCHARGE PIPELINE (#35) TO BE REMOVED.
- 5 DEWATERING WELLS DISPOSITION = SEE SHEET CL 04A.



GRAPHIC SCALE

REV	DESCRIPTION	DATE	DRAWN BY	ENGINEER	APPROVED
0	2020 UPDATE	4-12-2021	EL	AK	AK

### RIO GRANDE RESOURCES CORP.

MOUNT TAYLOR MINE - San Mateo, NM

Prepared By:  
Alan Kuhn Associates LLC

SCALE:  
AS SHOWN  
SIZE  
B

### TAYLOR MINE CLOSEOUT/CLOSURE

SHEET TITLE:  
FACILITY DISPOSITION PLAN

SHEET NO. <b>CL-04</b>	DWG NO. <b>GS20-CL104-00</b>	REV <b>0</b>
---------------------------	---------------------------------	-----------------

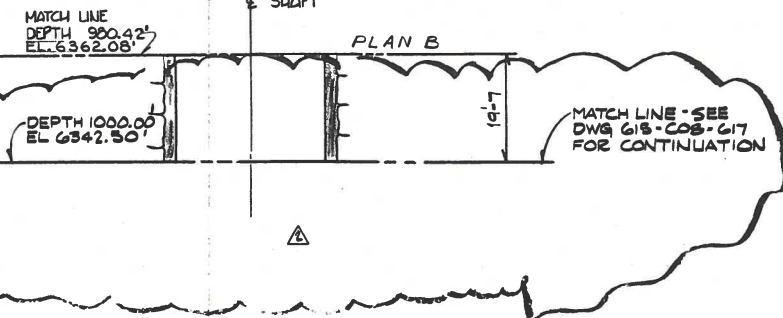
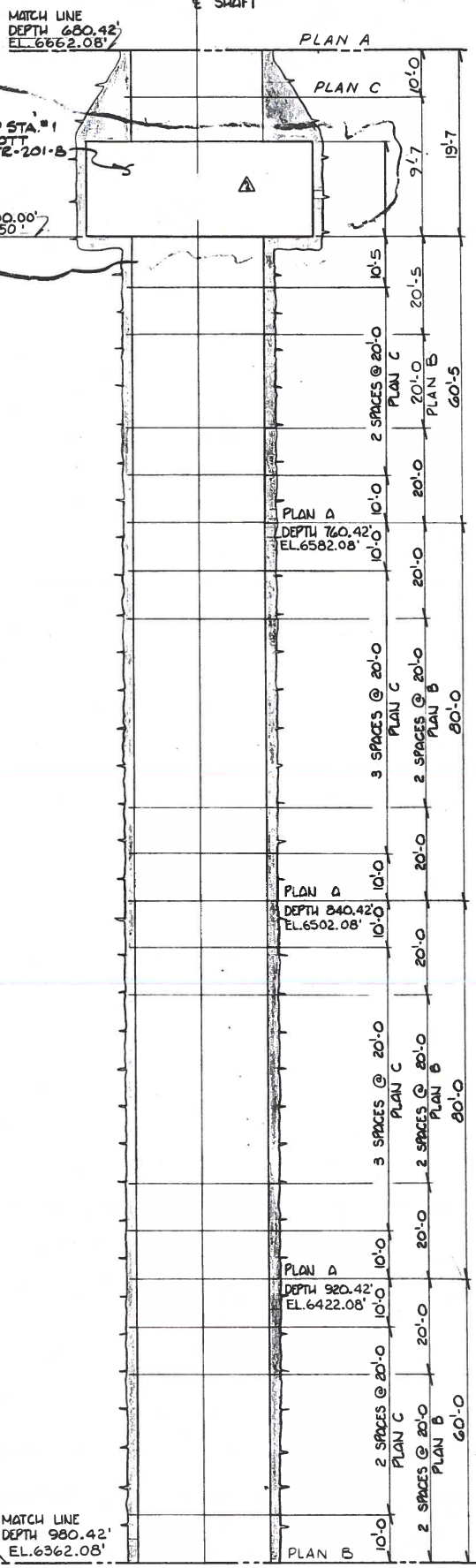
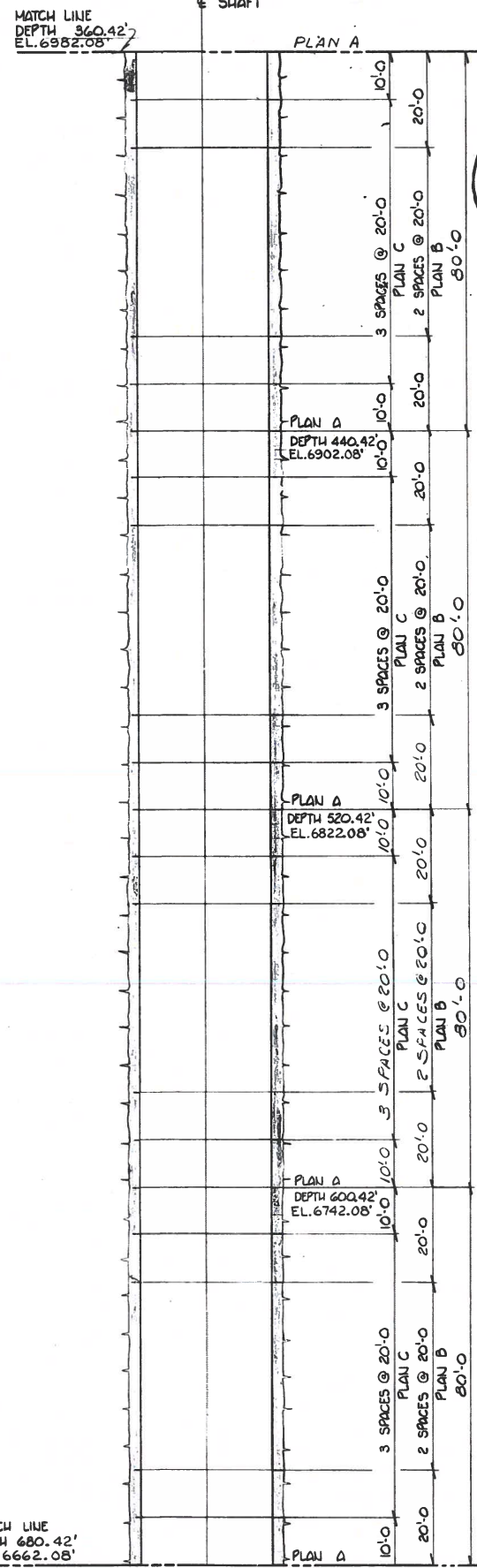
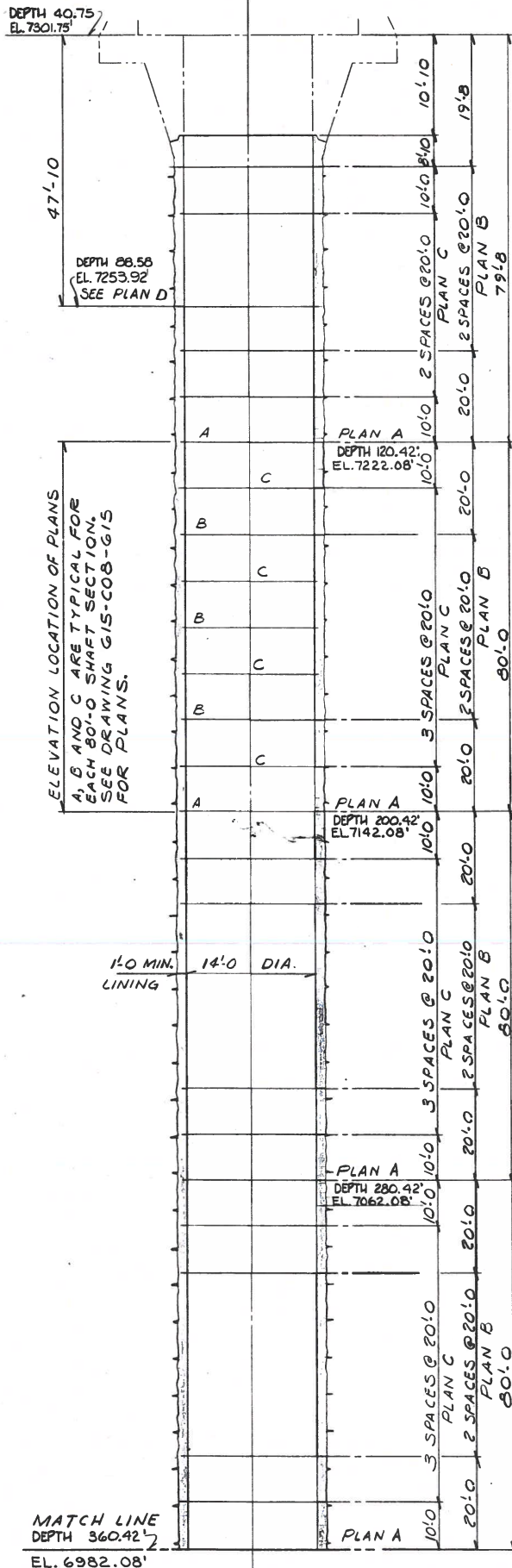
4

3

2

1

**Appendix A**  
**Mt Taylor Mine Shaft Lining Design Drawings**  
**for Construction**



ELEVATION LOCATION OF PLANS  
A, B AND C ARE TYPICAL FOR  
EACH 80'-0" SHAFT SECTION.  
SEE DRAWING G15-C08-G15  
FOR PLANS.

**NOTES**  
SEE DRAWING G15-C08-G15 FOR NOTES  
AND REFERENCE DRAWINGS.  
TOP OF CONCRETE SLAB AT 14'-0" DIA. SHAFT  
EL. 7339'-6" = DEPTH 3'-0".  
INSERT AND BRACKET CROSS REFERENCE -  
INSERT PLAN "A" FOR BRACKET PLAN "1" AND BUNTINGS  
INSERT PLAN "B" FOR BRACKET PLANS 1 & 2 AND BUNTINGS  
INSERT PLAN "C" FOR BUNTINGS ONLY

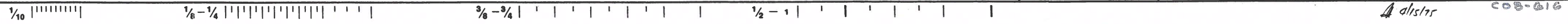
**ELEVATION**  
3/8"-1'-0" - SHAFT DIA. & COLLAR  
1/16"-1'-0" - INSERT DEPTH SPACING

**APPROVED FOR CONSTRUCTION**  
ISSUE NO. 5 DATE PRINTED 3-7-77

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Gulf Mineral Resources Co. <small>A DIVISION OF GULF OIL CORPORATION</small>	
<b>MT. TAYLOR PROJECT</b> SAN MATED, NEW MEXICO	
CONCRETE 14'-0" DIA. SHAFT CONCRETE LINING - ELEVATION COLLAR TO DEPTH 1000'-0"	
DRONE 2-21-75 CH <i>LD</i> 3/1/76	SCALE NOTED SECT. CIVIL
J. E. <i>JAL</i> 3/1/76	APP'D <i>J.E. JAL</i> 3/1/76
CODE 108	CONTRACT NO. <b>M 708</b>
<b>Dravo</b>	
DRAWING NO. <b>615-C08-616</b>	

BRUNING 44-232 22787



MATCH LINE  
DEPTH 1000.00'  
EL. 6342.50'

SHAFT

PLAN A  
DEPTH 1000.42'  
EL. 6342.08'

MATCH LINE  
DEPTH 1320.42'  
EL. 6022.08'

SHAFT

MATCH LINE  
DEPTH 1620.42'  
EL. 5722.08'

SHAFT

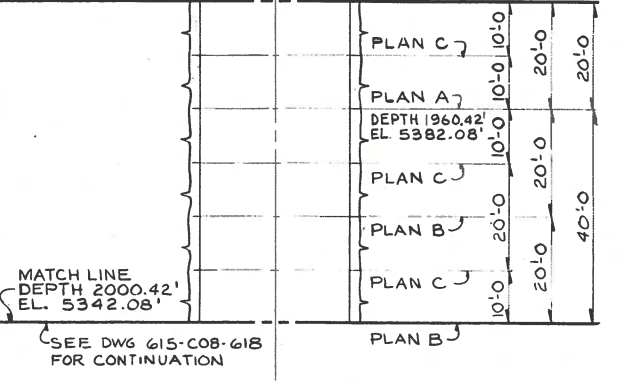
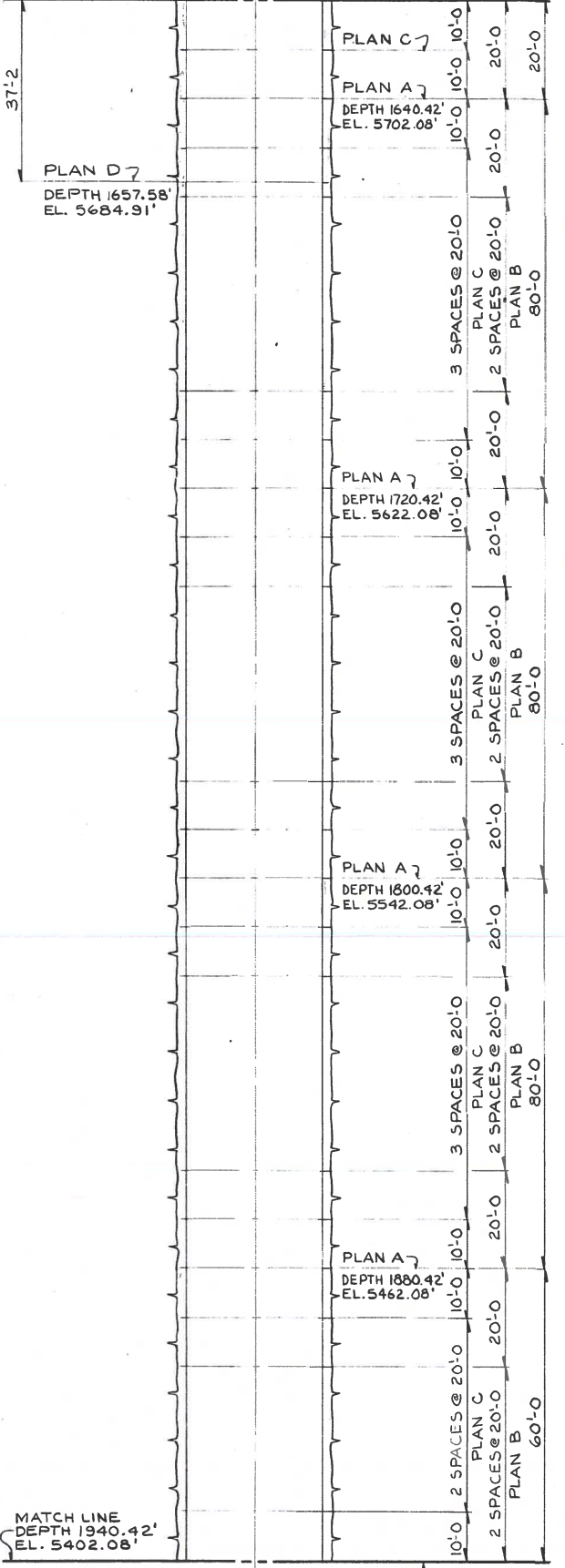
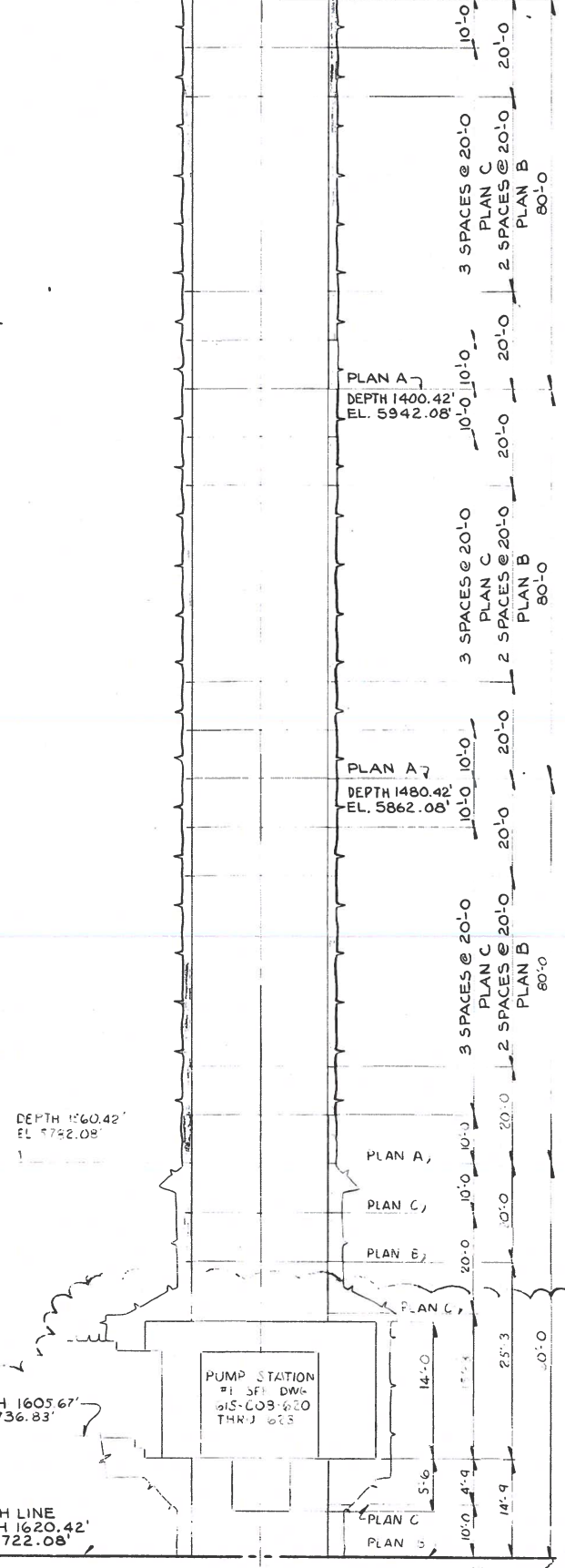
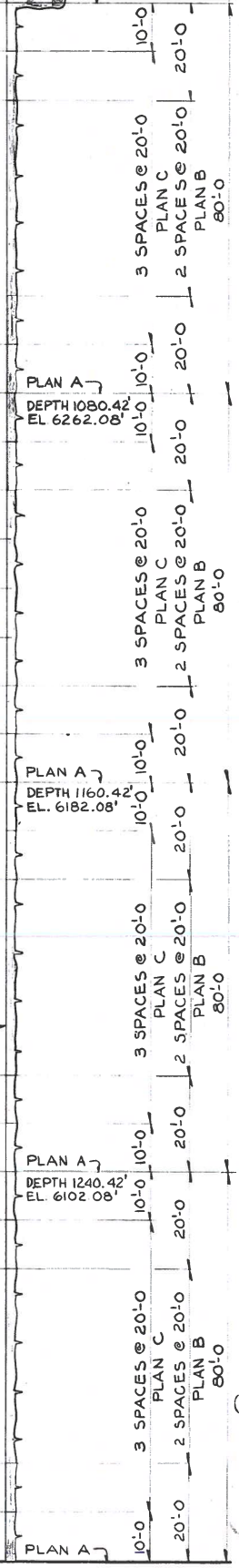
MATCH LINE  
DEPTH 1940.42'  
EL. 5402.08'

SHAFT

SEE DRAWING  
615-C08-616

ELEVATION LOCATION OF PLANS  
A, B AND C ARE TYPICAL FOR  
EACH 80'-0" SHAFT SECTION. SEE  
DRAWING 615-C08-615 FOR PLANS.

1'-0" MIN.  
LINING  
14'-0" DIA.



NOTES:  
1 FOR NOTES AND REFERENCE  
DRAWINGS SEE DRAWING 615-C08-615.

DEPTH 1600.42'  
EL. 5742.08'

DEPTH 1605.67'  
EL. 5736.83'

MATCH LINE  
DEPTH 1620.42'  
EL. 5722.08'

PUMP STATION  
#1 SEE DWG  
615-C08-620  
THRU 623

MATCH LINE  
DEPTH 1940.42'  
EL. 5402.08'

ELEVATION  
1/8" = 1'-0" SHAFT DIA & PUMP STA.  
1/16" = 1'-0" INSERT DEPTH SPACING

APPROVED FOR CONSTRUCTION  
ISSUE NO. 4 DATE PRINTED 1-14-77

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<b>Gulf</b> Gulf Energy and Minerals Company <small>A DIVISION OF GULF OIL CORPORATION</small>	
<b>MT. TAYLOR PROJECT</b> SAN MATEO, NEW MEXICO	
CONCRETE	
14'-0" DIA. SHAFT CONCRETE LINING - ELEVATION DEPTH 1000.00' TO 2000.42'	
DR <i>J.E.</i>	SCALE NOTED
CH <i>J.E. JAL</i>	SECT. CIVIL
2 12-11-76 DRB	APP'D <i>J.E. JAL</i>
1 10-10-76 J.E. JAL	CODE 10B
NO BY J.E.	CONTRACT NO. <b>M 7081</b>
REVISIONS	DRAWING NO. <b>615-C08-617</b>
1 9/11/76	

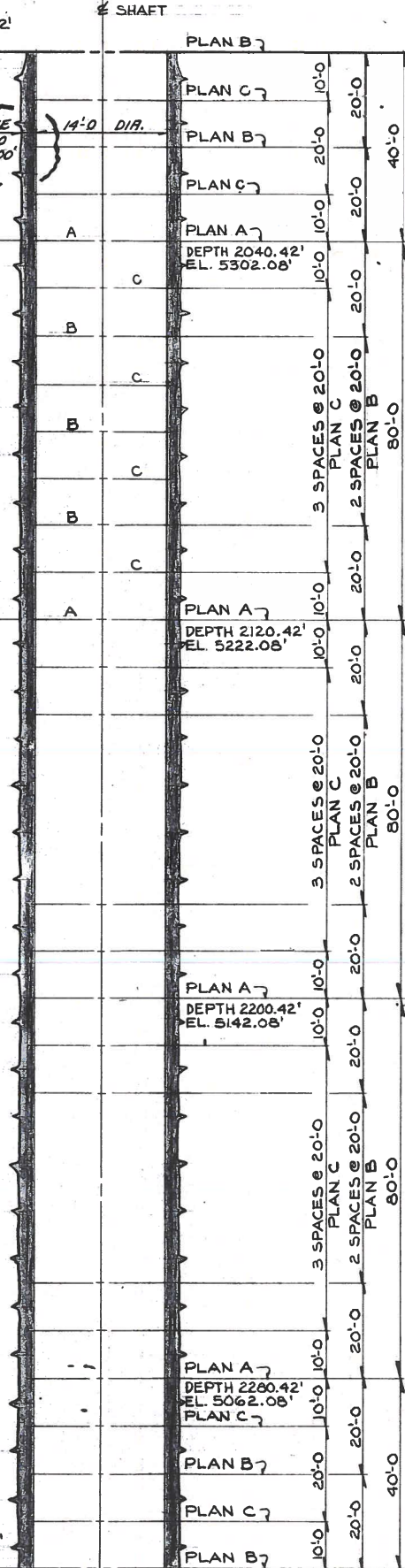
DRAWING 44-232 22797

MATCH LINE  
DEPTH 2000.42'  
EL. 5342.08'

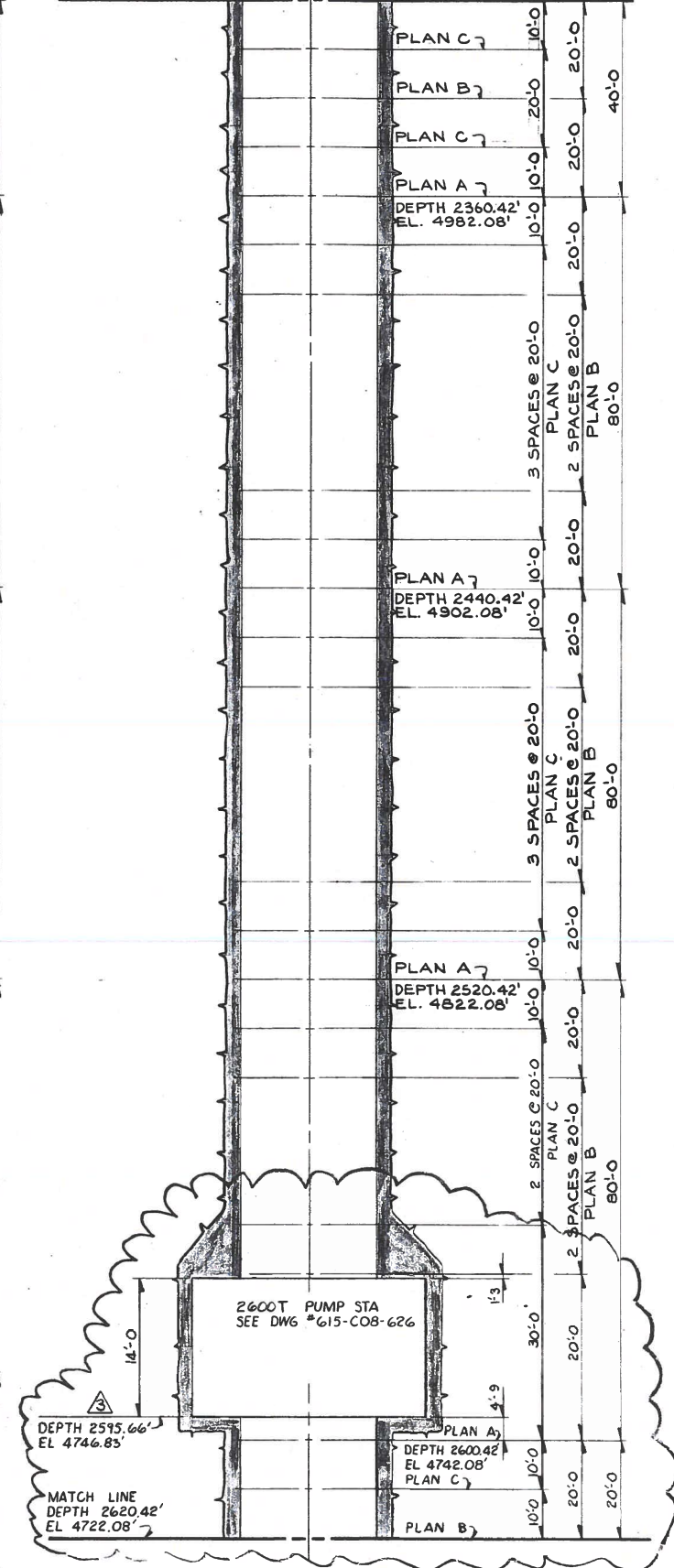
SEE DRAWING  
615-COB-617

MIN. LINING ABOVE  
2000.00' TO BE 1'-0"  
THK, BELOW 2000.00'  
TO BE 1'-6" THK.

ELEVATION LOCATION OF PLANS  
A, B AND C ARE TYPICAL FOR  
EACH 80'-0" SHAFT SECTION. SEE  
DRAWING 615-COB-615 FOR PLANS

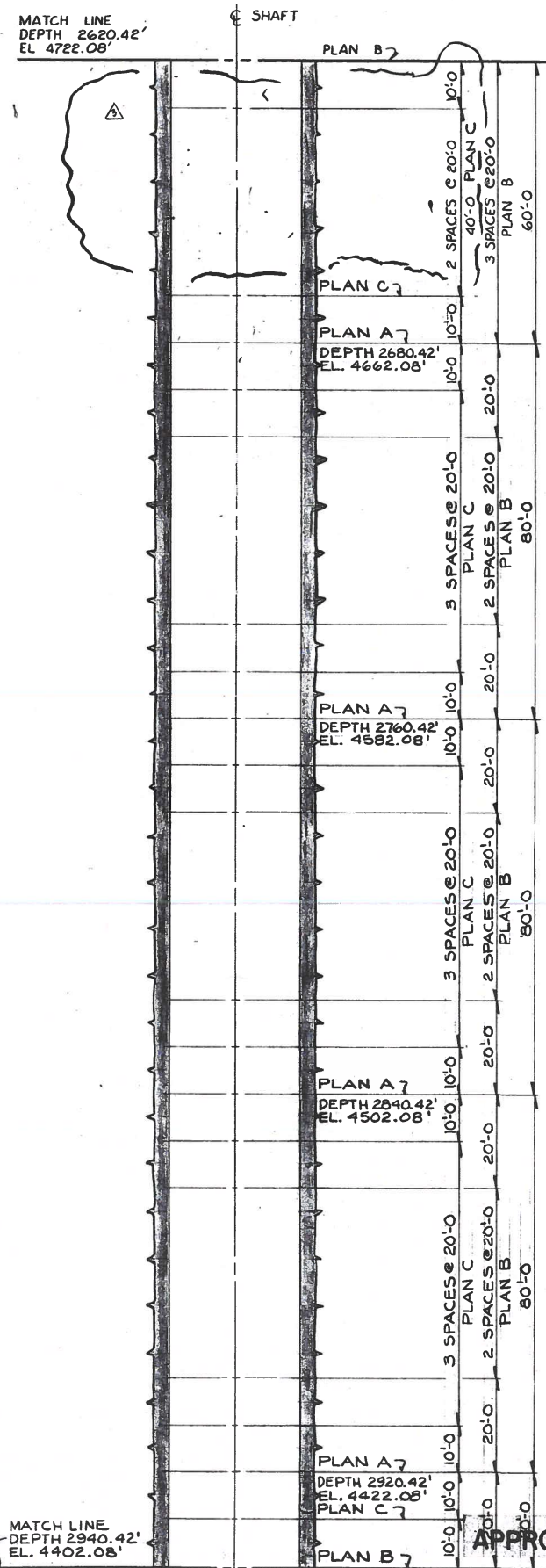


MATCH LINE  
DEPTH 2320.42'  
EL. 5022.08'



ELEVATION  
1/8"=1'-0" SHAFT DIA & PUMP STA.  
1/16"=1'-0" INSERT DEPTH SPACING

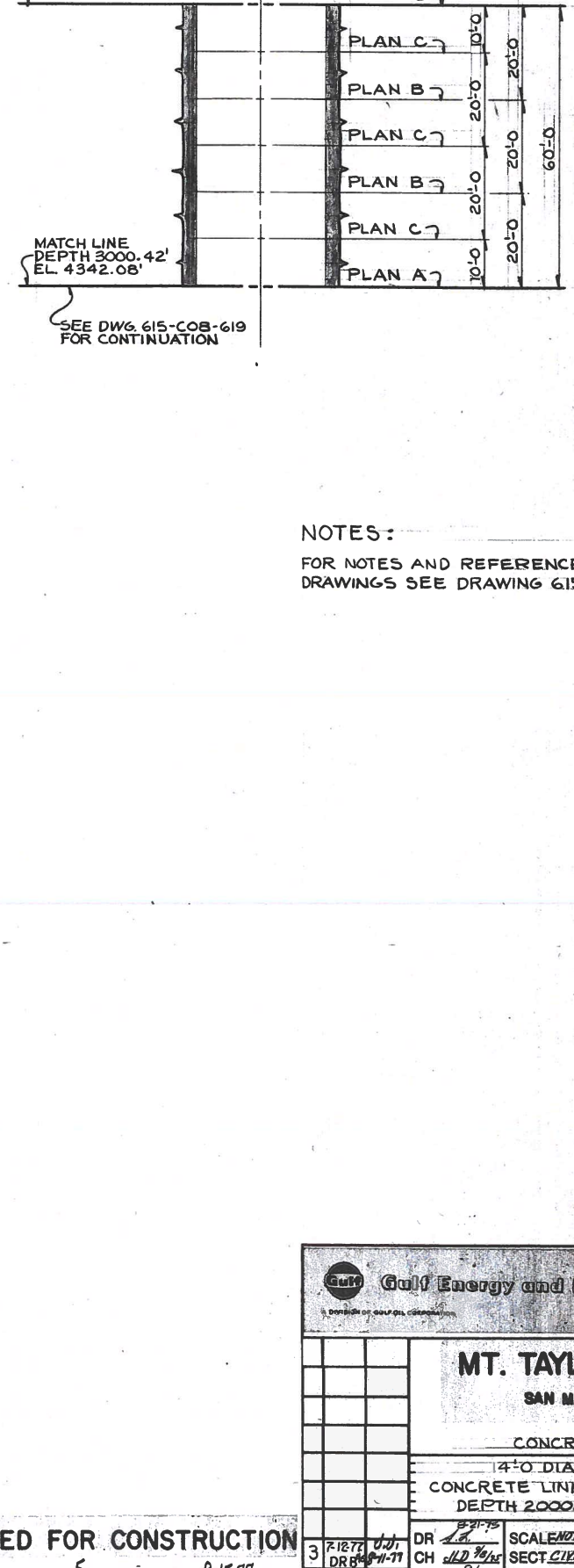
MATCH LINE  
DEPTH 2940.42'  
EL. 4402.08'



MATCH LINE  
DEPTH 2940.42'  
EL. 4402.08'

MATCH LINE  
DEPTH 3000.42'  
EL. 4342.08'

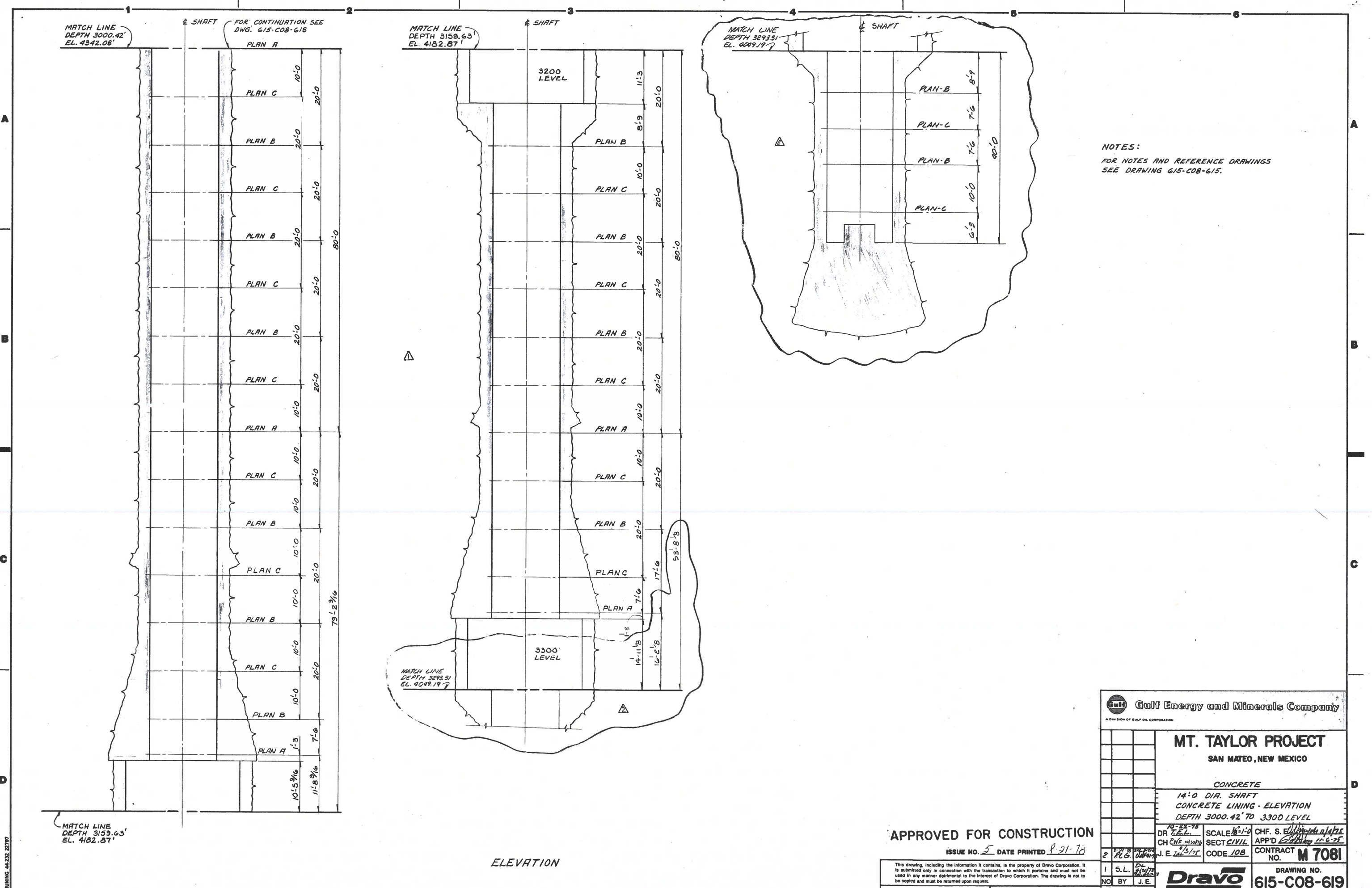
SEE DWG. 615-COB-619  
FOR CONTINUATION



NOTES:  
FOR NOTES AND REFERENCE  
DRAWINGS SEE DRAWING 615-COB-615.

Gulf Energy and Minerals Company <small>A DIVISION OF ARCO CHEMICAL COMPANY</small>	
<b>MT. TAYLOR PROJECT</b> SAN MATEO, NEW MEXICO	
CONCRETE 4'-0" DIA. SHAFT CONCRETE LINING-ELEVATION DEPTH 2000.42' TO 3000.42'	
3 7-12-77 DR [Signature] CH [Signature]	SCALED/CH. S.E. [Signature] SECT. CIVIL APP'D. [Signature]
2 10-24-78 TEL [Signature]	CODE JOB CONTRACT NO. M 708
1 10-20-78 ONE [Signature]	DRAWING NO. <b>615-COB-618</b>
APPROVED FOR CONSTRUCTION ISSUE NO. 5 DATE PRINTED 8-15-77	
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DENVER OPERATIONS OFFICE (ENGINEERING CONSTRUCTION DIV.)	

DRAWING 615-COB-618



MATCH LINE  
DEPTH 3000.42'  
EL. 4342.08'

FOR CONTINUATION SEE  
DWS. 615-C08-618

MATCH LINE  
DEPTH 3159.63'  
EL. 4182.87'

MATCH LINE  
DEPTH 3293.31'  
EL. 4049.19'

MATCH LINE  
DEPTH 3159.63'  
EL. 4182.87'

MATCH LINE  
DEPTH 3293.31'  
EL. 4049.19'

NOTES:  
FOR NOTES AND REFERENCE DRAWINGS  
SEE DRAWING 615-C08-615.

ELEVATION

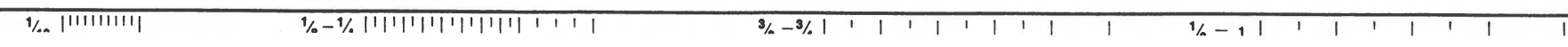
APPROVED FOR CONSTRUCTION

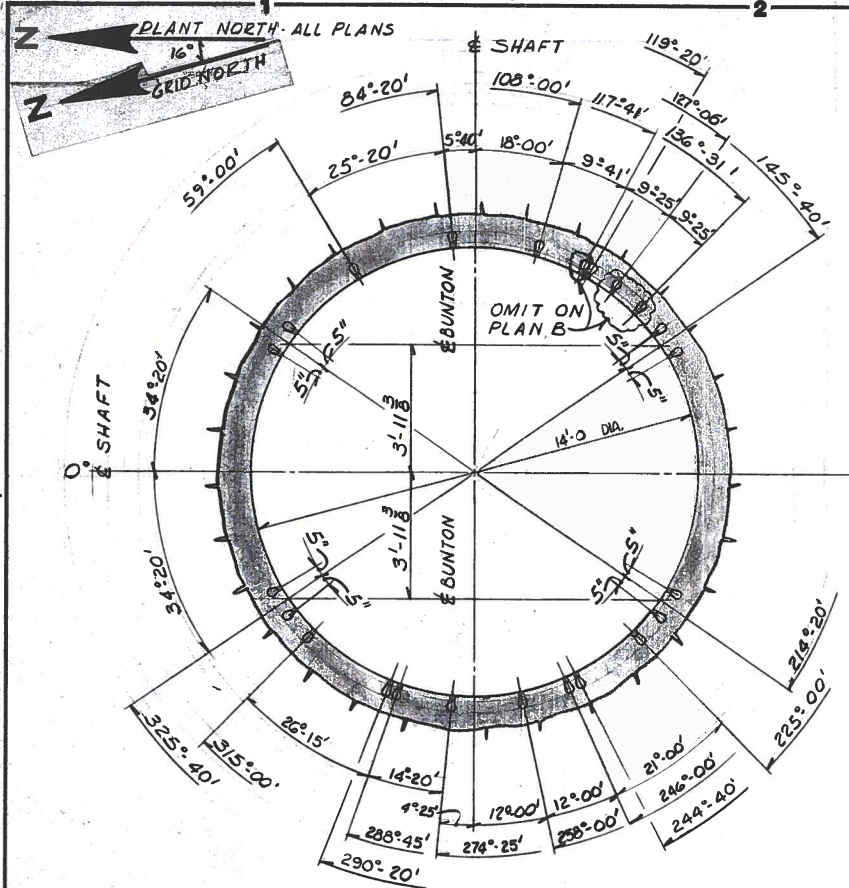
ISSUE NO. 5 DATE PRINTED 8-21-78

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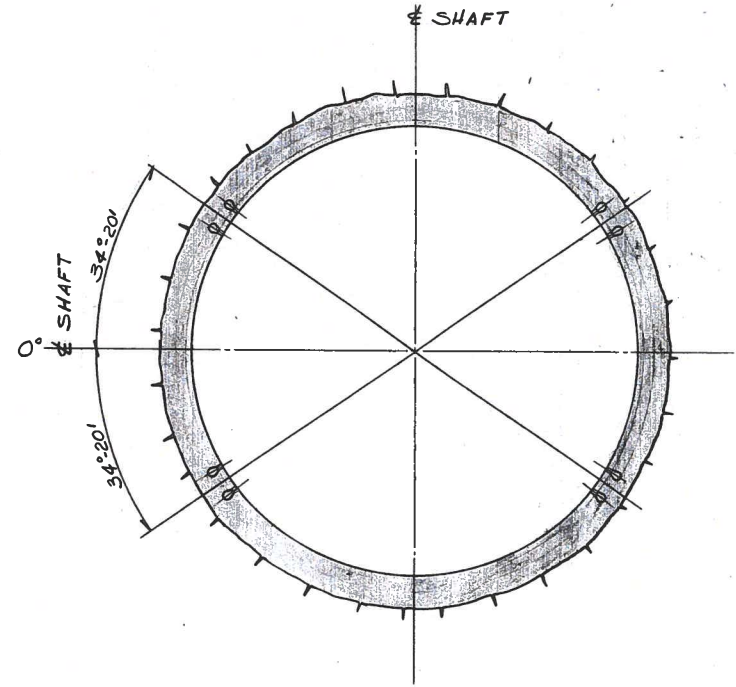
Gulf Energy and Minerals Company A DIVISION OF GULF OIL CORPORATION			
<b>MT. TAYLOR PROJECT</b> SAN MATEO, NEW MEXICO			
CONCRETE 14' DIA. SHAFT CONCRETE LINING - ELEVATION DEPTH 3000.42' TO 3300 LEVEL			
10-22-78 DR J.E.L. CH J.E.L.	SCALE 1/8"=1'-0" SECT CIVIL	CH F. S. E. APP'D J.E.L.	CONTRACT NO. M 7081
1 S.L. NO BY J.E.	REVISIONS		DRAWING NO. 615-C08-619

BRUNING 44-232 22787

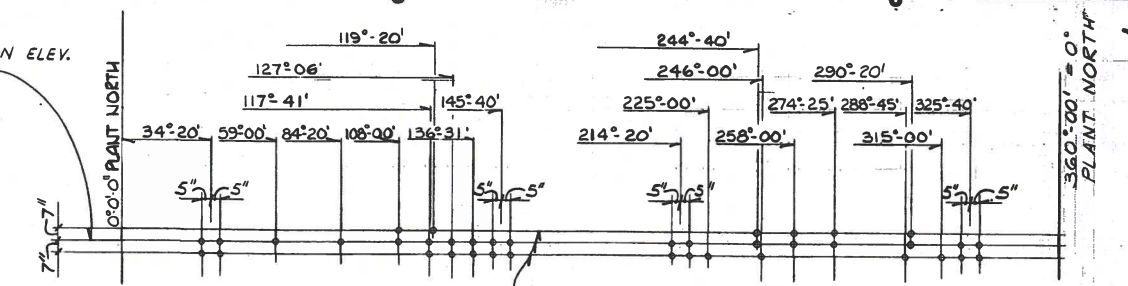




PLAN A  
Scale: 1/4" = 1'-0"



PLAN C  
Scale: 1/4" = 1'-0"



DEVELOPED ELEVATION  
PLAN A  
Scale: 1/4" = 1'-0"

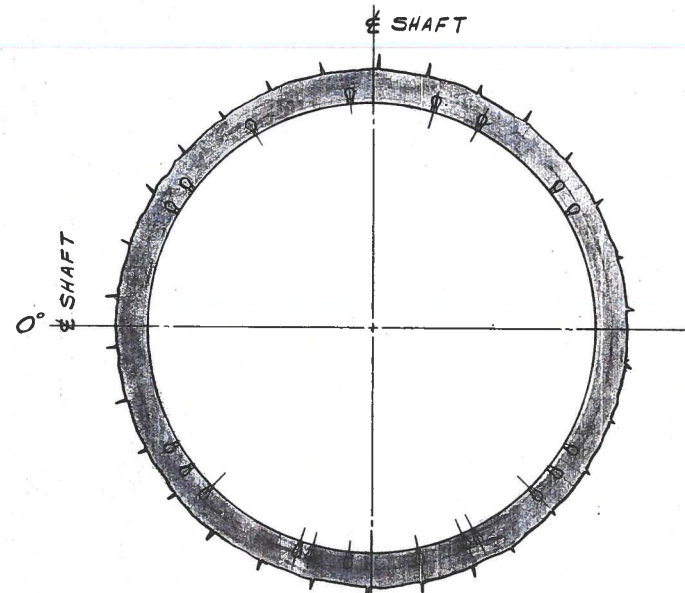
NOTES  
SEE DRAWING 000-C08-032 FOR GENERAL CONCRETE NOTES AND STANDARD DETAILS.  
CONCRETE COMPRESSIVE STRENGTH (f<sub>c</sub>) SHALL BE 5000 PSI AT 28 DAYS.

- REFERENCE DRAWINGS
- G18-C07-860 GUIDE ELEVATION
  - G18-C07-865 BUNTON PLAN AND DETAILS
  - G18-C07-866 BRACKET PLAN AND DETAILS
  - G18-C07-867 BRACKET PLAN AND DETAILS
  - G15-C08-616 CONCRETE LINING ELEVATION
  - G15-M13-946 DECK WINCH GUIDE ROLLERS
  - 600-F02-196 SHAFT CROSS SECT. - SINK. PHASE
  - 600-F02-197 SHAFT CROSS SECT. - PROD. PHASE
  - 600-F02-195 VERTICAL CROSS SECT. - SINK. & PROD. PHASE

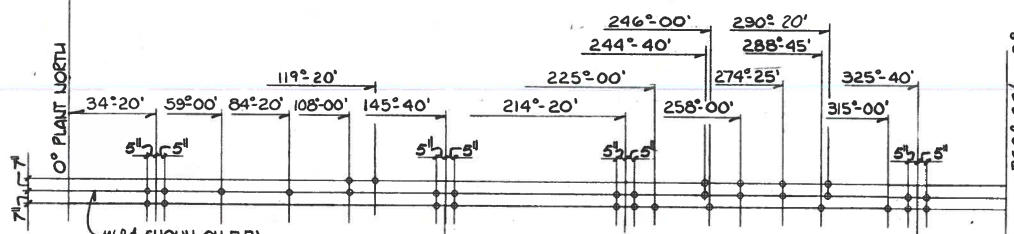
B/M-C-127 MATERIAL LIST

QUANTITIES FOR REV. _____		
DESCRIPTION	QUANTITY	UNITS
FOOTINGS		C.Y.
PEDESTALS		C.Y.
GRADE BEAMS		C.Y.
WALLS		C.Y.
SLAB ON GRADE		C.Y.
SUPPORTED SLABS		C.Y.
REINFORCING BARS		TONS
W.W. FABRIC		S.F.

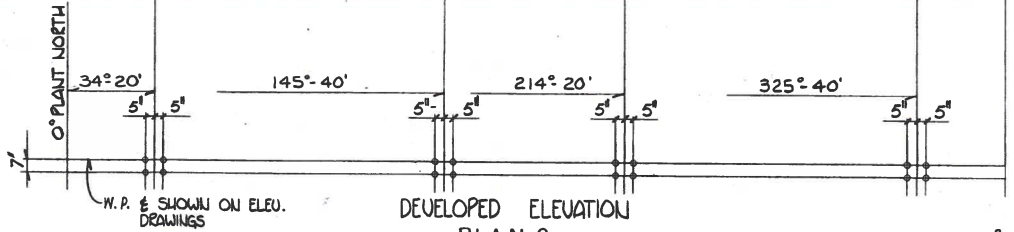
ALL QUANTITIES ARE NET



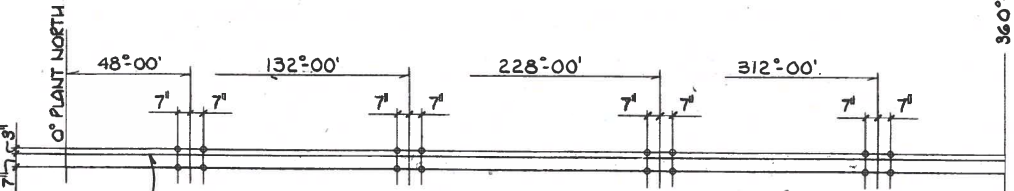
PLAN B  
Scale: 1/4" = 1'-0"  
SAME AS PLAN A, EXCEPT AS NOTED



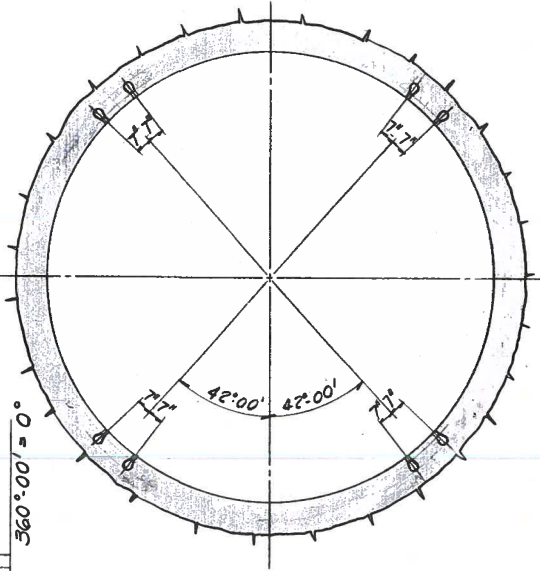
DEVELOPED ELEVATION  
PLAN B  
Scale: 1/4" = 1'-0"



DEVELOPED ELEVATION  
PLAN C  
Scale: 1/4" = 1'-0"



DEVELOPED ELEVATION  
PLAN D  
Scale: 1/4" = 1'-0"



PLAN D  
Scale: 1/4" = 1'-0"

APPROVED FOR CONSTRUCTION

ISSUE NO. 6 DATE PRINTED 11-6-75

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**Gulf Mineral Resources Co.**  
A DIVISION OF GULF OIL CORPORATION

**MT. TAYLOR PROJECT**  
SAN MATED, NEW MEXICO

CONCRETE  
14'-0" DIA. SHAFT  
CONCRETE LINING  
INSERT PLANS AND DETAILS

DRONE 2-19-75	SCALE NOTED	CHF. S. E.
CH OLD 2/12	SECT. CIVIL	APP'D
J. E. J. 2/12	CODE 108	CONTRACT NO. M 7081

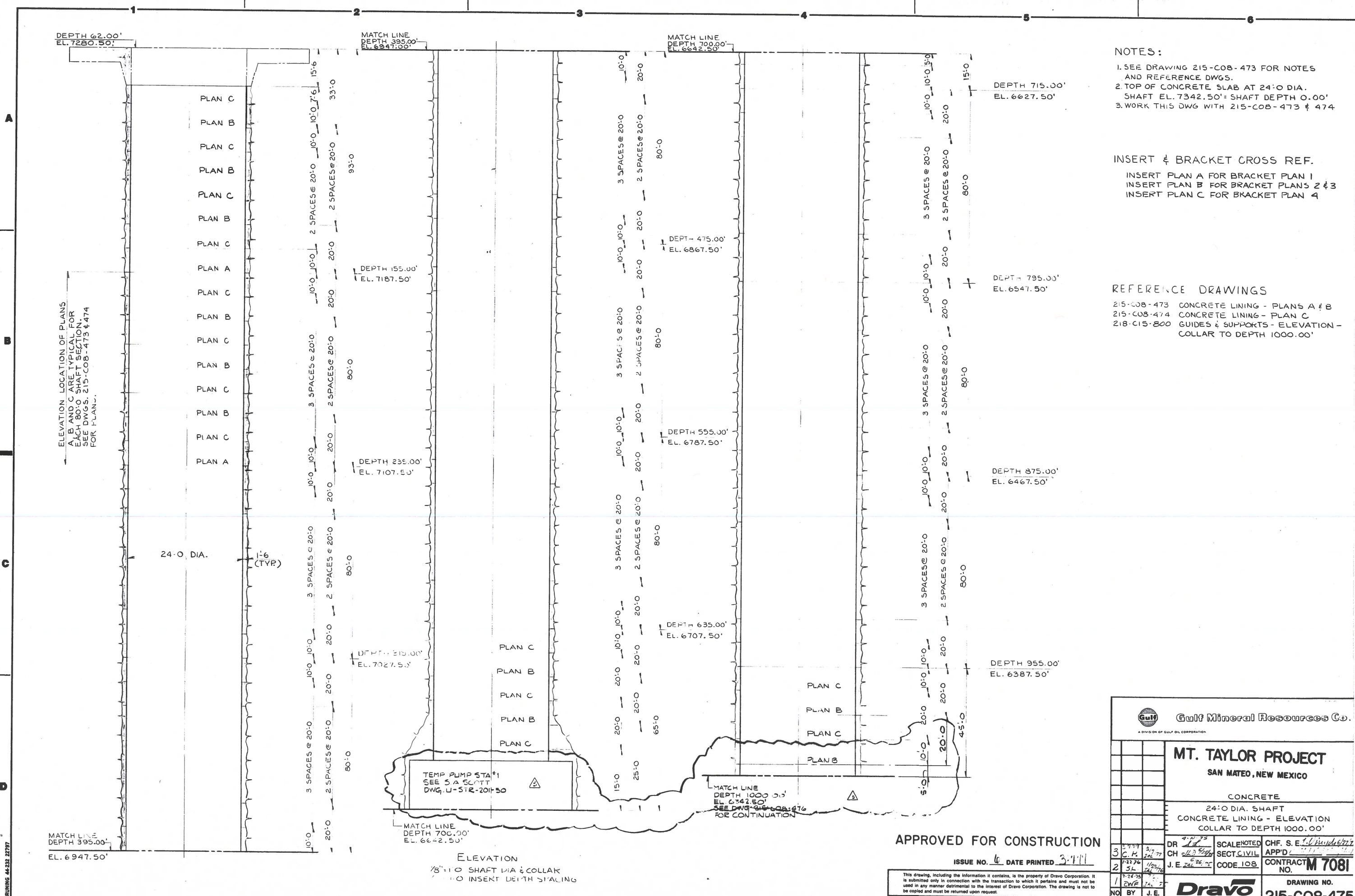
**Dravo** DRAWING NO. 615-C08-615

NO. BY J.E. REVISIONS

DRAWING 44-232 22797







NOTES:  
 1. SEE DRAWING 215-C08-473 FOR NOTES AND REFERENCE DWGS.  
 2. TOP OF CONCRETE SLAB AT 24" DIA. SHAFT EL. 7342.50' = SHAFT DEPTH 0.00'  
 3. WORK THIS DWG WITH 215-C08-473 & 474

INSERT & BRACKET CROSS REF.  
 INSERT PLAN A FOR BRACKET PLAN 1  
 INSERT PLAN B FOR BRACKET PLANS 2 & 3  
 INSERT PLAN C FOR BRACKET PLAN 4

REFERENCE DRAWINGS  
 215-C08-473 CONCRETE LINING - PLANS A & B  
 215-C08-474 CONCRETE LINING - PLAN C  
 218-C15-800 GUIDES & SUPPORTS - ELEVATION - COLLAR TO DEPTH 1000.00'

ELEVATION LOCATION OF PLANS A, B AND C ARE TYPICAL FOR EACH 80'-0" SHAFT SECTION. SEE DWGS. 215-C08-473 & 474 FOR PLANS.

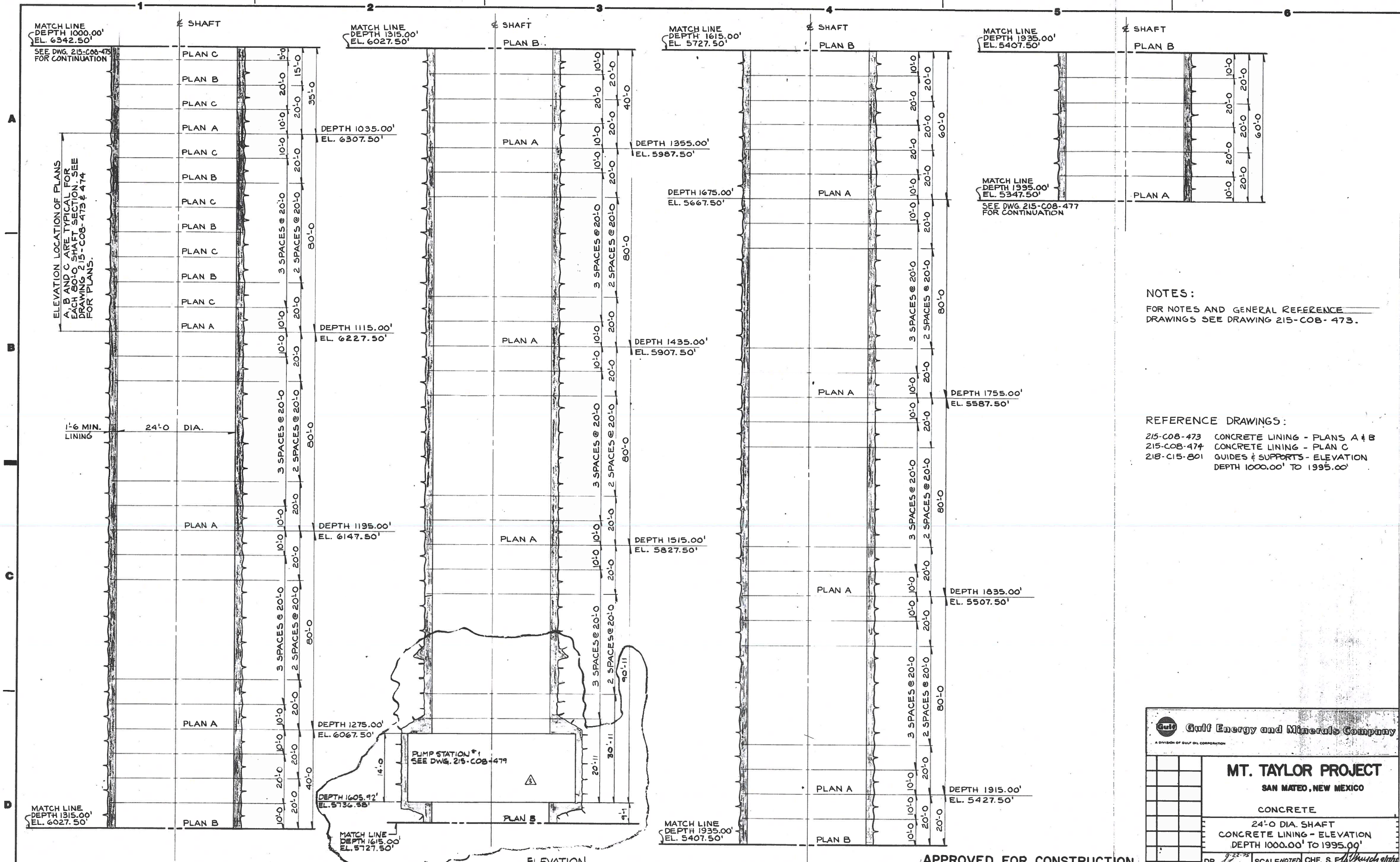
APPROVED FOR CONSTRUCTION  
 ISSUE NO. 6 DATE PRINTED 3-11-11

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DENVER OPERATIONS OFFICE (ENGINEERING CONSTRUCTION DIV.)

Gulf Mineral Resources Co. <small>A DIVISION OF GULF OIL CORPORATION</small>	
<b>MT. TAYLOR PROJECT</b> SAN MATEO, NEW MEXICO	
CONCRETE 24" DIA. SHAFT CONCRETE LINING - ELEVATION COLLAR TO DEPTH 1000.00'	
DR <u>4-11-73</u> C.H. <u>3/7/77</u> 2 <u>3/27/76</u> 1 <u>7-24-75</u>	SCALE NOTED SECT. CIVIL CODE 108
CH <u>4-11-73</u> J.E. <u>3/26/75</u>	APP'D CONTRACT NO. <b>M 7081</b>
NO. BY J.E. REVISIONS	DRAWING NO. <b>215-C08-475</b>

BRUNING 44-232-22787



MATCH LINE  
DEPTH 1000.00'  
EL. 6342.50'  
SEE DWG. 215-C08-473  
FOR CONTINUATION

MATCH LINE  
DEPTH 1315.00'  
EL. 6027.50'

MATCH LINE  
DEPTH 1615.00'  
EL. 5727.50'

MATCH LINE  
DEPTH 1935.00'  
EL. 5407.50'

ELEVATION LOCATION OF PLANS  
A, B AND C ARE TYPICAL FOR  
EACH 80'-0" SHAFT SECTION. SEE  
DRAWING 215-C08-473 & 474  
FOR PLANS.

1-6 MIN.  
LINING  
24'-0" DIA.

DEPTH 1035.00'  
EL. 6307.50'

DEPTH 1115.00'  
EL. 6227.50'

DEPTH 1195.00'  
EL. 6147.50'

DEPTH 1275.00'  
EL. 6067.50'

DEPTH 1605.92'  
EL. 5736.55'

MATCH LINE  
DEPTH 1615.00'  
EL. 5727.50'

DEPTH 1355.00'  
EL. 5987.50'

DEPTH 1435.00'  
EL. 5907.50'

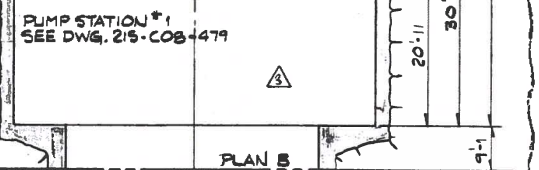
DEPTH 1515.00'  
EL. 5827.50'

MATCH LINE  
DEPTH 1935.00'  
EL. 5407.50'

DEPTH 1755.00'  
EL. 5587.50'

DEPTH 1835.00'  
EL. 5507.50'

DEPTH 1915.00'  
EL. 5427.50'



ELEVATION  
1/8" = 1'-0" SHAFT DIA. & PUMP STA.  
1/16" = 1'-0" INSERT DEPTH SPACING

NOTES:  
FOR NOTES AND GENERAL REFERENCE  
DRAWINGS SEE DRAWING 215-C08-473.

REFERENCE DRAWINGS:  
215-C08-473 CONCRETE LINING - PLANS A & B  
215-C08-474 CONCRETE LINING - PLAN C  
218-C15-801 GUIDES & SUPPORTS - ELEVATION  
DEPTH 1000.00' TO 1995.00'

Gulf Energy and Minerals Company <small>A DIVISION OF GULF OIL CORPORATION</small>			
<b>MT. TAYLOR PROJECT</b> SAN MATEO, NEW MEXICO CONCRETE 24'-0" DIA. SHAFT CONCRETE LINING - ELEVATION DEPTH 1000.00' TO 1995.00'			
DR. <i>[Signature]</i> CH. <i>[Signature]</i> S.L. <i>[Signature]</i>	SCALE NOTED SECT. CIVIL CODE JOB	CH. S. <i>[Signature]</i> APP'D. <i>[Signature]</i> CONTRACT NO. <b>M 7081</b>	DRAWING NO. <b>215-C08-476</b>
APPROVED FOR CONSTRUCTION ISSUE NO. <u>5</u> DATE PRINTED <u>3-9-77</u>		REVISIONS NO. BY J.E.	

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BRUNING 44-232 22797

MATCH LINE  
DEPTH 1995.00'  
EL. 5347.50'

MATCH LINE  
DEPTH 2315.00'  
EL. 5027.50'

MATCH LINE  
DEPTH 2615.00'  
EL. 4727.50'

MATCH LINE  
DEPTH 2995.00'  
EL. 4407.50'

SEE DWG. 215-COB-476  
FOR CONTINUATION

MATCH LINE  
DEPTH 2995.00'  
EL. 4347.50'  
SEE DWG. 215-COB-478  
FOR CONTINUATION

ELEVATION LOCATION OF PLANS  
A, B AND C ARE TYPICAL FOR  
EACH 80'-0" SHAFT SECTION, SEE  
DRAWING 215-COB-473 & 474  
FOR PLANS.

MIN. LINING ABOVE  
2000.00' TO BE  
1'-6" THK., BELOW  
2000.00' TO BE  
2'-0" THK.

DEPTH 2075.00'  
EL. 5267.50'

DEPTH 2395.00'  
EL. 4947.50'

DEPTH 2635.00'  
EL. 4707.50'

DEPTH 2955.00'  
EL. 4387.50'

DEPTH 2155.00'  
EL. 5187.50'

DEPTH 2475.00'  
EL. 4867.50'

DEPTH 2715.00'  
EL. 4627.50'

NOTES:  
FOR NOTES AND GENERAL REFERENCE  
DRAWINGS SEE DRAWING 215-COB-473.

REFERENCE DRAWINGS  
215-COB-473 CONCRETE LINING - PLANS A & B  
215-COB-474 CONCRETE LINING - PLAN C  
215-COB-802 GUIDES & SUPPORTS - ELEVATION -  
DEPTH 1995.00' TO 2995.00'

DEPTH 2235.00'  
EL. 5107.50'

DEPTH 2555.00'  
EL. 4787.50'

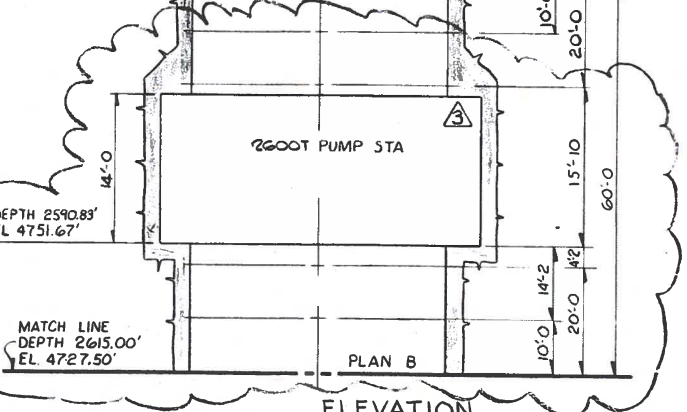
DEPTH 2795.00'  
EL. 4547.50'

DEPTH 2590.83'  
EL. 4751.67'

MATCH LINE  
DEPTH 2935.00'  
EL. 4407.50'

DEPTH 2875.00'  
EL. 4467.50'

MATCH LINE  
DEPTH 2315.00'  
EL. 5027.50'



ELEVATION  
1/8" = 1'-0" SHAFT DIA. & PUMP STA.  
1/16" = 1'-0" INSERT DEPTH SPACING

APPROVED FOR CONSTRUCTION  
ISSUE NO. 5 DATE PRINTED 8-15-77

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Gulf Energy and Minerals Company  
A Division of Gulf Oil Corporation

**MT. TAYLOR PROJECT**  
SAN MATEO, NEW MEXICO

CONCRETE  
24'-0" DIA. SHAFT  
CONCRETE LINING - ELEVATION  
DEPTH 1995.00' TO 2995.00'

3	DR 8-20-75	DR 8-20-75	DR 8-20-75
2	CH 10-17-75	CH 10-17-75	CH 10-17-75
1	SL 12-17-75	SL 12-17-75	SL 12-17-75

DR S. E. [Signature]  
CH J. E. [Signature]  
SL J. E. [Signature]

SCALE: NOTED  
SECTION: CIVIL  
CODE: 70B

APP'D: [Signature]  
CONTRACT NO. M 7081

DRAWING NO. 215-COB-477

REVISIONS  
NO. BY J.E.

DENVER OPERATIONS OFFICE (ENGINEERING CONSTRUCTION DIV.)

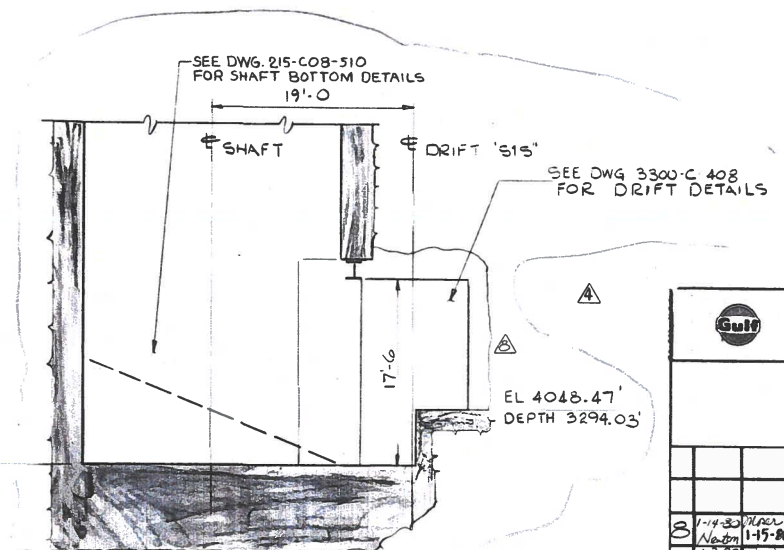
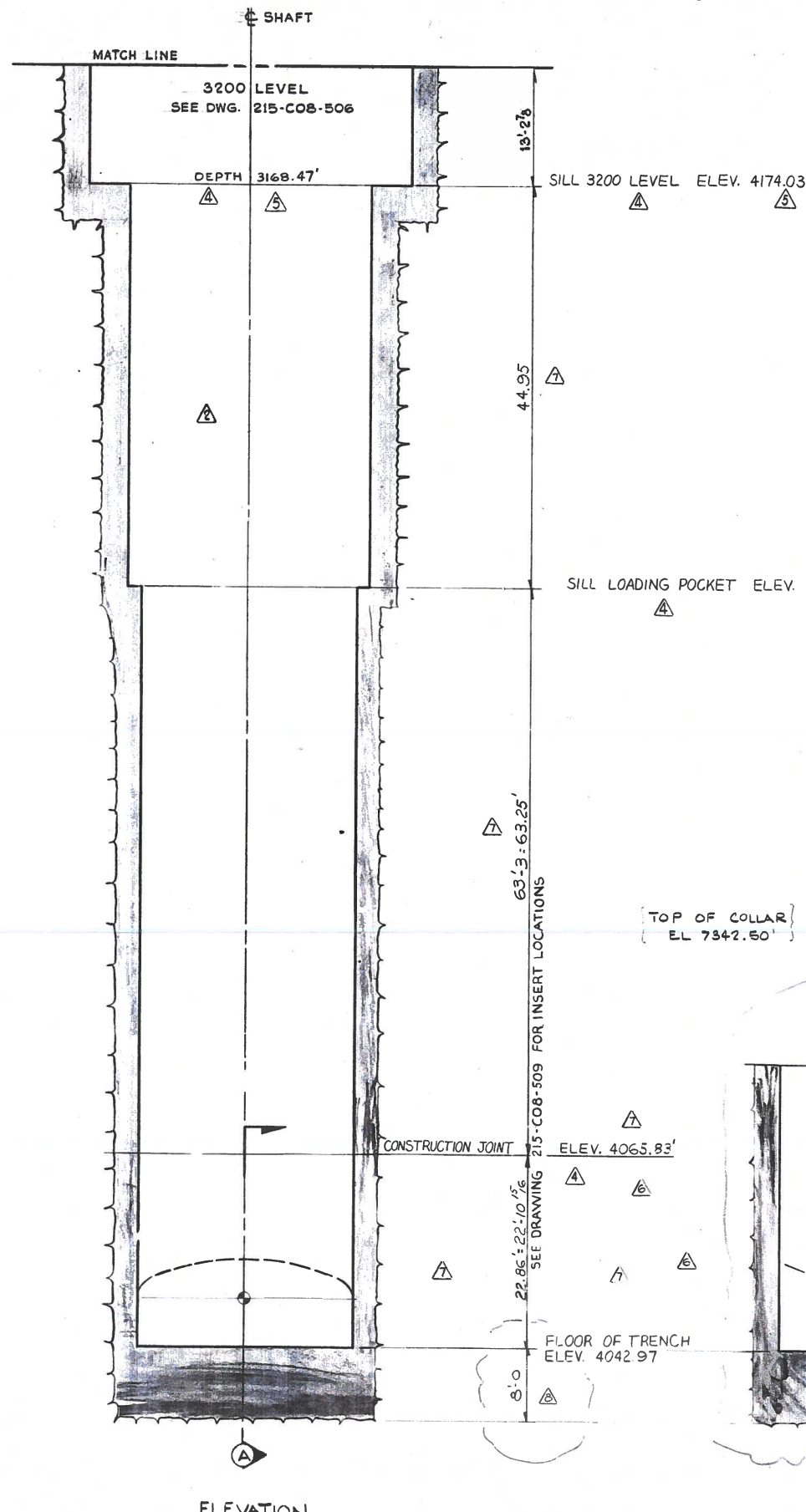
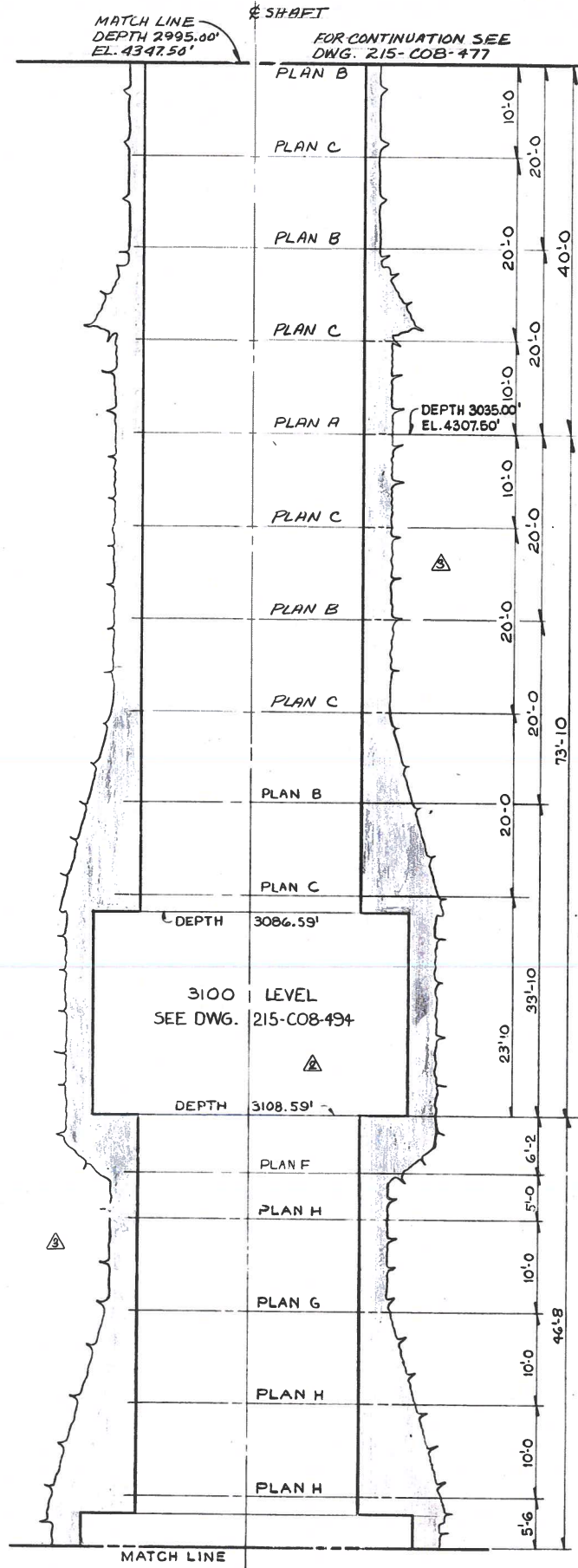
1/16"

1/8" - 1/4"

3/8" - 3/4"

1/2" - 1"

215-COB-477



**NOTES:**  
 FOR NOTES AND GENERAL REFERENCE DRAWINGS SEE DRAWING 215-COB-473  
 DEPTHS AT 3100 AND 3200 LEVELS ARE ACTUAL FIELD MEASUREMENTS. 3" DISCREPANCY IN DIMENSIONS IS DUE TO ACCUMULATED ERROR OVER ENTIRE SHAFT DEPTH.

**REFERENCE DRAWINGS:**  
 215-COB-473 CONCRETE LINING - PLANS A & B  
 215-COB-474 CONCRETE LINING - PLAN C  
 218-C15-803 GUIDES & SUPPORTS - ELEVATION-DEPTH 2995.00' TO 3424.00'  
 215-COB-472 INSERT PLANS & DETAILS  
 215-COB-508 INSERT PLANS & DETAILS  
 215-COB-510 BOTTOM PLAN & DETAILS

**SECTION A'** PER FIELD DIMENSIONS  
**APPROVED FOR CONSTRUCTION**

ISSUE NO. 8 DATE PRINTED 1-14-80

DATE PRINTED JAN 14 1980

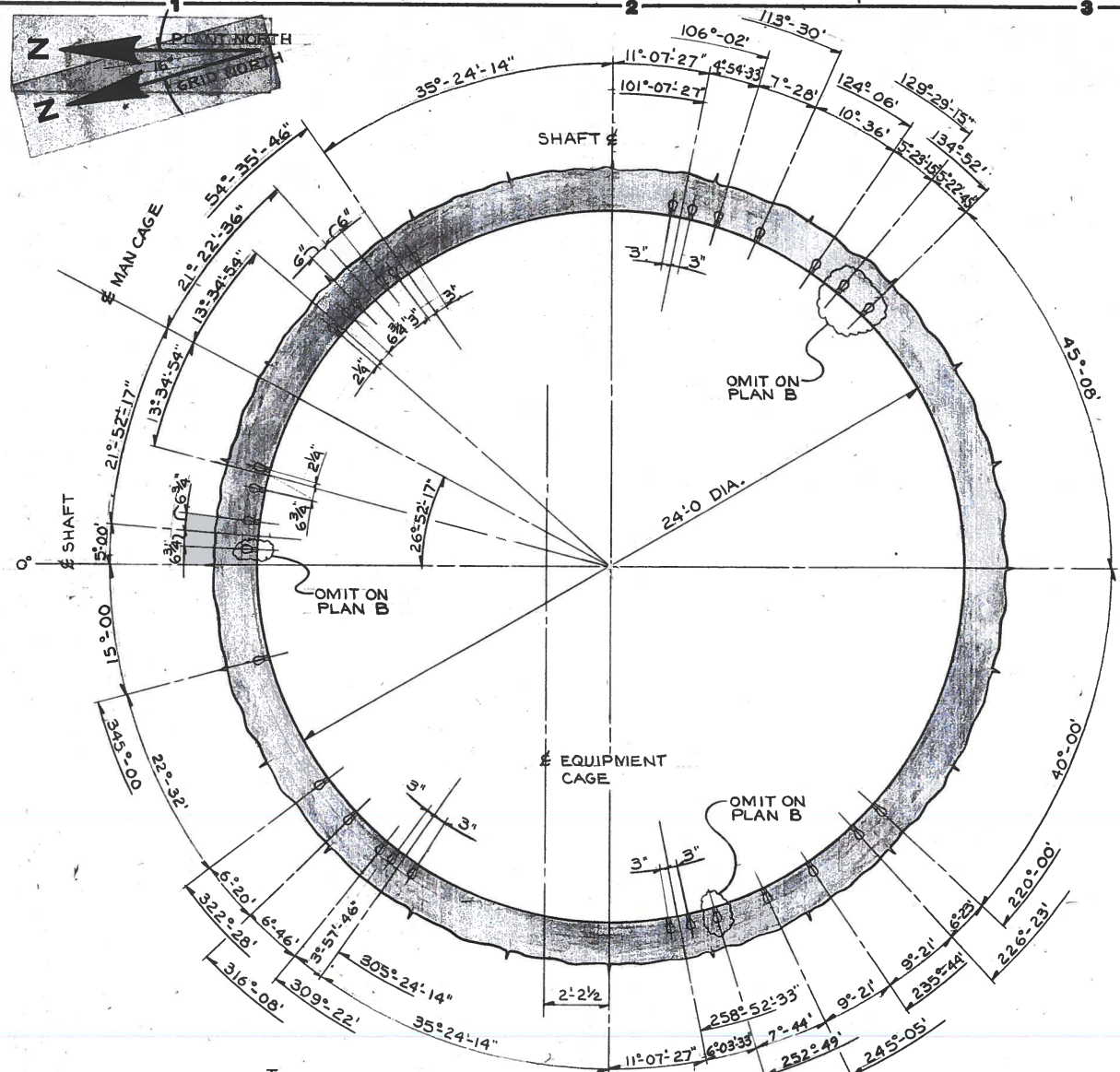
<b>Gulf Mineral Resources Co.</b>			
<b>MT. TAYLOR PROJECT</b>			
SAN MATEO, NEW MEXICO			
CONCRETE			
24'-0" DIA SHAFT			
CONCRETE LINING - ELEVATION			
DEPTH 2995.00' TO 3424.00'			
NO.	BY	DATE	REVISIONS
1	S.L.	1/14/80	1/2" DIA
2	T.F.	1/14/80	1" DIA
3	J.E.	1/14/80	1" DIA
4	J.L.	1/14/80	1" DIA
5	J.L.	1/14/80	1" DIA
6	J.L.	1/14/80	1" DIA
7	J.L.	1/14/80	1" DIA
8	J.L.	1/14/80	1" DIA

DR S.L.	SCALE 3/4"=1'-0"	CHF. S. E. [Signature]
CH [Signature]	SECT. CIVIL	APP'D [Signature]
J.E. [Signature]	CODE 108	CONTRACT NO. M 7081
DRAWING NO. 215-COB-478		

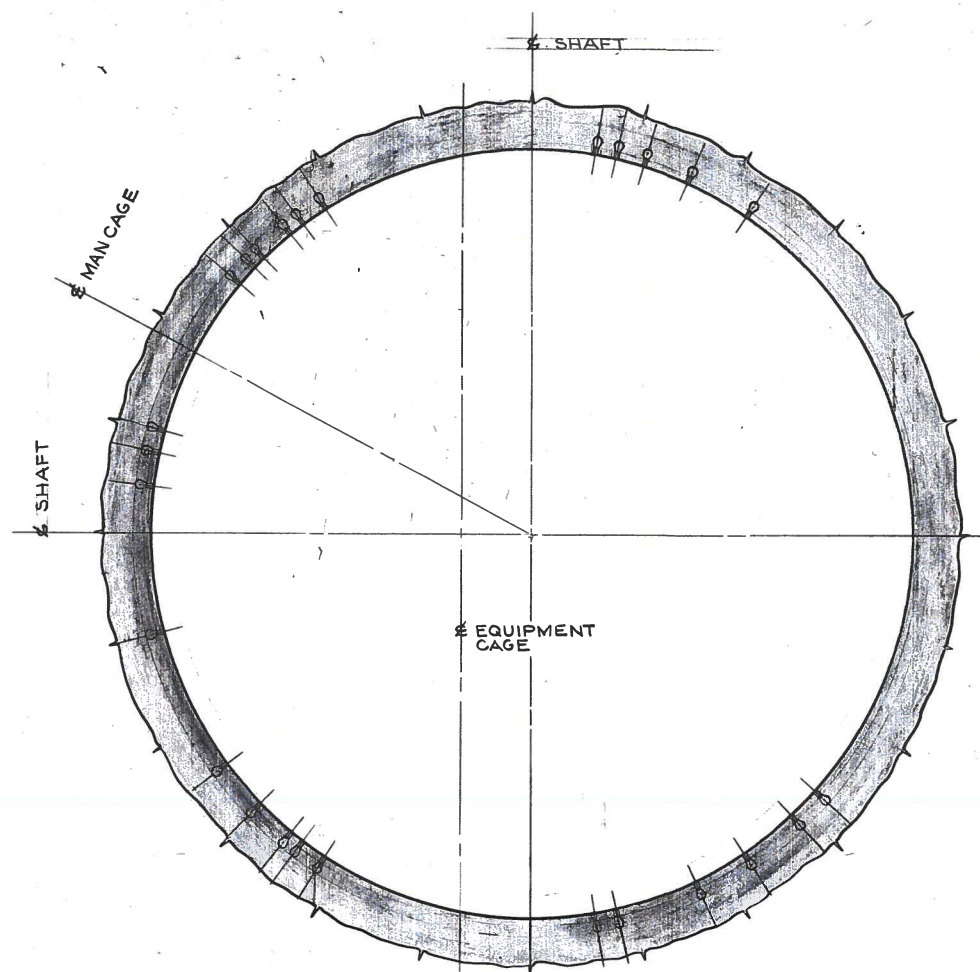
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DENVER OPERATIONS OFFICE (ENGINEERING CONSTRUCTION DIV.)

BRUNING 44-232 2737



PLAN A  
3/8" = 1'-0"

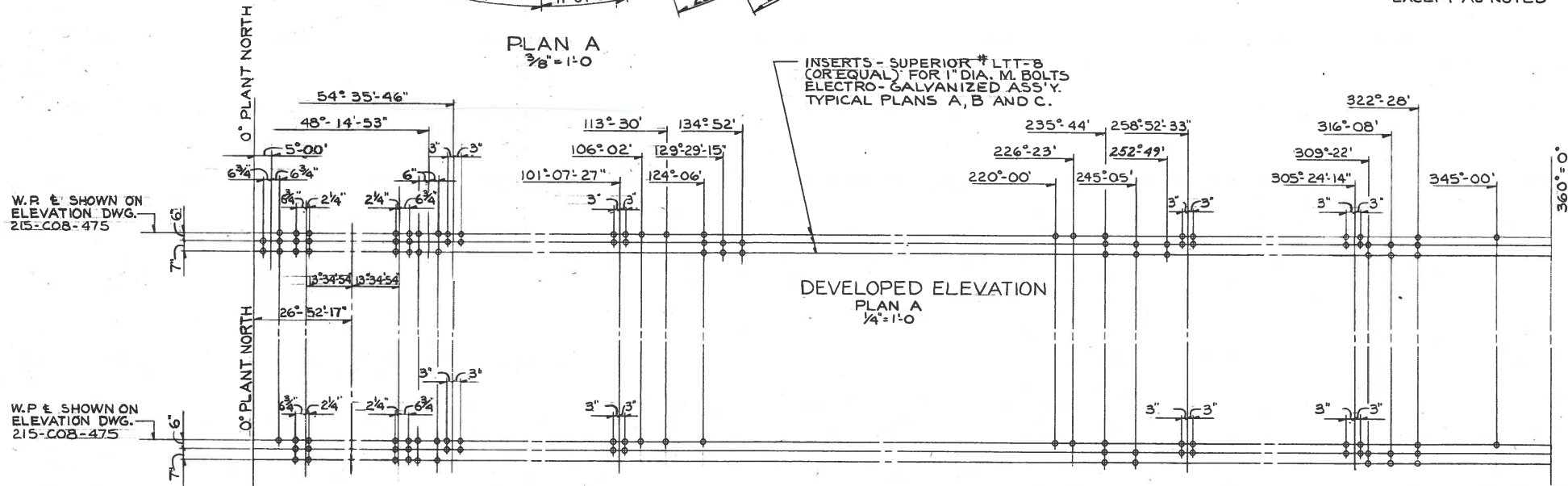


PLAN B  
3/8" = 1'-0"  
SAME AS PLAN A,  
EXCEPT AS NOTED

- NOTES:
- SEE DWG. 000-C08-032 FOR GENERAL CONCRETE NOTES AND STANDARD DETAILS.
  - CONCRETE COMPRESSIVE STRENGTH (f'c) SHALL BE 5000 PSI. AT 28 DAYS.

- REFERENCE DRAWINGS:
- 215-C08-474 24' DIA. SHAFT CONCRETE LINING - INSERT PLANS & DETAILS
  - 215-C08-475 24' DIA. SHAFT CONCRETE LINING - ELEVATION; COLLAR TO DEPTH 1000.00'
  - 218-C15-797 24' DIA. SHAFT STRUCTURAL STEEL - GUIDES AND SUPPORTS PLANS AND DETAILS.
  - 200-F02-200 GENERAL ARRANGEMENT - 24' DIA. SHAFT - CROSS SECTION - SINKING PHASE
  - 200-F02-124 FACILITIES - VERTICAL CROSS SECTION - SINK. & PROD. PHASE

B/M-C-232 MATERIAL LIST



DEVELOPED ELEVATION  
PLAN A  
1/4" = 1'-0"

W.R. & SHOWN ON ELEVATION DWG. 215-C08-475

W.P. & SHOWN ON ELEVATION DWG. 215-C08-475

INSERTS - SUPERIOR # LTT-B (OR EQUAL) FOR 1" DIA. M. BOLTS ELECTRO-GALVANIZED ASS'Y. TYPICAL PLANS A, B AND C.

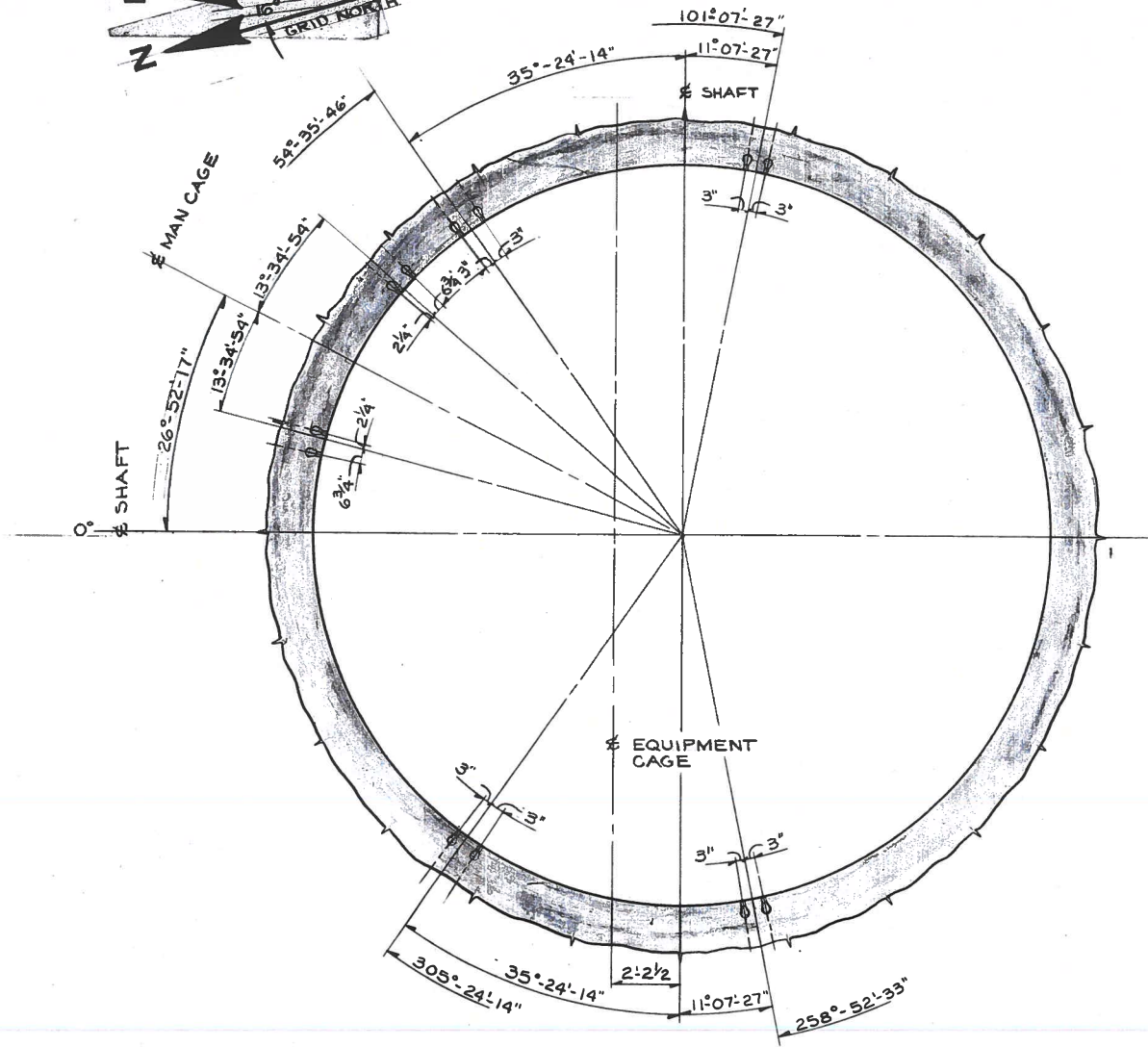
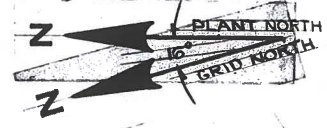
APPROVED FOR CONSTRUCTION

ISSUE NO. 6 DATE PRINTED 11-6-75

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Gulf Mineral Resources Co. A DIVISION OF GULF OIL CORPORATION		
<b>MT. TAYLOR PROJECT</b> SAN MATEO, NEW MEXICO		
CONCRETE 24' DIA. SHAFT CONCRETE LINING INSERT PLANS & DETAILS		
DR. <i>[Signature]</i> CH. <i>[Signature]</i>	SCALENOTED SECT. CIVIL	CHF. S. E. <i>[Signature]</i> APP'D. <i>[Signature]</i>
3 11-1-75 CWE <i>[Signature]</i>	J. E. <i>[Signature]</i>	CONTRACT NO. <b>M 7081</b>
2 11-26-75 CWE <i>[Signature]</i>	J. E.	DRAWING NO. <b>215-C08-473</b>
1 1-26-75 CWE <i>[Signature]</i>	J. E.	REVISIONS
DENVER OPERATIONS OFFICE	(ENGINEERING CONSTRUCTION DIV.)	

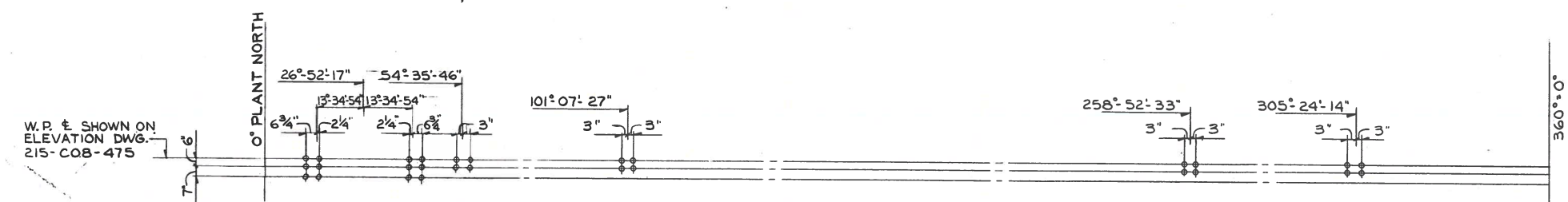
DRAWING 44-333 23787



PLAN C  
3/8" = 1'-0"

NOTES:  
SEE DRAWING 215-COB-473 FOR NOTES,  
BILL OF MATERIAL AND GENERAL  
REFERENCE DRAWINGS.

REFERENCE DRAWINGS:  
215-COB-473 24" DIA. SHAFT- CONCRETE LINING  
INSERT PLANS & DETAILS  
215-COB-475 24" DIA. SHAFT- CONCRETE LINING  
ELEVATION- COLLAR TO  
DEPTH 1000.00'



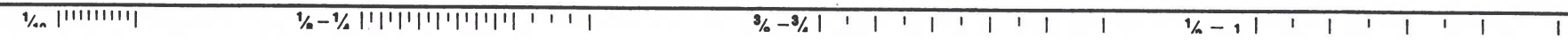
DEVELOPED ELEVATION  
PLAN C  
1/4" = 1'-0"

W.P. & SHOWN ON  
ELEVATION DWG.  
215-COB-475

APPROVED FOR CONSTRUCTION  
ISSUE NO. 4 DATE PRINTED 7-28-75

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Gulf Mineral Resources Co. <small>A DIVISION OF GULF OIL CORPORATION</small>	
<b>MT. TAYLOR PROJECT</b> SAN MATEO, NEW MEXICO	
CONCRETE 24" DIA. SHAFT CONCRETE LINING INSERT PLANS & DETAILS	
DR <i>J.E.</i>	SCALE NOTED
CH <i>J.E.</i>	SECT. CIVIL
J.E. <i>2/26/75</i>	CODE 108
APP'D <i>S.E. Winkler</i> CONTRACT NO. <b>M 7081</b>	
DRAWING NO. <b>215-COB-474</b>	
DENVER OPERATIONS OFFICE	(ENGINEERING CONSTRUCTION DIV.)
REVISIONS	



BRUNING 44-232 22797